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ORIGINAL ARTICLES.

POPULAR ERRORS CONCERNING INSANITY.

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INSANITY, though technically held to be a medical subject, has a large border-line of questions concerning its actuality, its essential elements and limiting boundaries, that belong more properly to ordinary or social philosophy; such aspects must be frequently met by legal decisions, and judgments concerning them must be made by citizens having social and legal relations of many kinds with the border-line cases. It is as a question of popular interest, and one deserving of vastly more popular, intelligent thought, that the subject is here presented.

Such consideration is needed to bring more clearness, more rational action in legislation, more of reasonable and less of the blind, perverted malignant criticism of asylums for the insane by the ordinary well-informed classes of society, including its lawyers, ministers, merchants, and most intelligent citizens generally.

And first, we find, oddly enough, that no one is so ignorant or knows so little of insanity that he does not make impromptu very positive judgments in regard to it. Living with and among the insane of a large asylum population we are frequently told that "this one surely is not insane;" that we "ought to let that one out;" that they "know of several cases who are railroaded into an asylum;" that "we have some here who ought not to be here," etc. So coolly and decidedly are we told these things right on our own threshold that after a time we shrink from the long argument which likely, after all, only half convinces, and we are prone to content ourselves with the decided protest, or else at times ignore the reflection altogether, and smile at the thought of how coolly our years of experience and long contact with this special insane case under question go for naught before the five-minute examination. The slight regard in which expert testimony is held is shown no better than by the total disregard of the testimony of physicians expert in judging of insanity in the Prendergast trial. Although quite uniform, good, and unwavering, it was coolly disregarded and set aside by lawyers, by jury, and by newspaper criticism.

A second way in which confusion of thought shows itself is proved by the suspicions of the most unreasonable character that run through the papers and through the popular gossiping conversation at the first misfortune at an asylum. By inference, at least, it is judged that each asylum is kept and controlled by *men of criminal intent*, while lurid pictures of daily happenings are fully and eagerly accredited. Like the preceding criticisms, this contumely has to be accepted coolly and calmly by the officers and employés as part of the *impedimenta* of the business, unless, forsooth, these would in sheer disgust give up their positions.

It is impossible to fight such criticism, and it will only disappear as the future will, by the gradual withdrawal of the seclusion-element, and by the slow spread of intelligence concerning the class, dissipate such clouds of skepticism. Of course also here, as in all lines of work, a steady progress in intelligent care and a true hospital-spirit of nursing will avoid to a more perfect extent the occasional happenings which furnish a basis for such criticism.

We believe that there are some reasons for this popular distrust and misjudgment, and also for the popular unbelief and mistrust of experts and expert testimony. We would outline the first point leading toward clearer ideas in this form:

1. *Insane people are more or less reasonable people.* That is to say, they both use their reasoning powers, and they use them moreover in a reasonable manner. Although few have ever formulated the saying, "insane people know nothing," yet nearly all have made judgments, or have read and accepted judgments having this as its practical basis. The arguments of the prosecution concerning the insanity of Prendergast, accused of the murder of Mayor Harrison of Chicago, all had this as their fundamental error. It was found through newspapers, in conversation, and everywhere. It was argued that because *he was afraid of death he must be sane;* because *he could remember accurately he must be sane;* because *he could plan ahead he must be sane.* This was the drift of the arguments that decided his conviction of murder upon the ground of sanity. But insane people are more or less capable and responsible in business. Peterson reports the case of a switchman doing regular work. The trouble is that every man whose mind works untruly or wrongly in any *one*

discoverable way is denominated insane, though much of ability, intelligence, and responsible action still remain in other ways.

It is evident upon consideration, however, to the most heedless mind that such a one is vastly different from one in a dull, stupid condition of terminal dementia. The first point toward clearing up the fog about the question, then, could be restated about as follows: *In insane people varying degrees of intelligence and ability still remain.*

2. Our second point is to be inferred from the preceding. It is that *insane people grade from very slight mental defects toward the profoundly dull, the overpoweringly depressed, the wildly exalted, or the weakly silly.* This, again, would seem an easy, almost self-proved statement, but as it is practically often ignored, it is needful to make it very prominent here. One person is able to carry on a clear conversation, perceive clearly, reason accurately, to do good business, or what not; while another is too stupid to speak, or too overwhelmed by acute mania, or by the oppression of a melancholia, to have much if any consciousness of what is going on about him. The contrast is great, yet to *both* of these extreme cases is applied in common *the name "insane."* The inference is so clear as seemingly to need little further explanation. The gradual line of increasing ability in a series of cases can be made out clearly in any large hospital for the insane. Ought the man at the intelligent end of the series to be ignored as a man of likes and dislikes, as a man of duties and responsibilities, as much as the man at the other end of the series necessarily is? The answer seems so evident as to hardly need framing.

3. *Not all insanities technically such ought to receive the name insane.* For example, a person in the process of getting drunk goes through various phases of mental impairment or insanity, yet because of its transient character it is rarely so named. If, however, the conditions of mind in many intoxications were *permanent*, it would be easy and just to call such a person insane.

So, too, in the delirium of fevers, the person is practically insane. But the state being transient and of transient causation, the name is not applied. Many drugs produce transient mental perversions to be considered in the same way. From blows on the head, from surgical operations about the head, from gross brain-wounds, similar impairments of a transient nature are noted. Among more chronic troubles the mental impairments of early epilepsy are frequently asserted by good authorities as not to be insanity. The perversions of chronic inebriety are by some spoken of as insanity, by others not. Reform-schools and prisons always hold some cases to whose mental state it is doubtful whether the name insanity would be applicable or not. The fundamental endowment of some people is occasionally so lacking that some of the more critical will call them insane. A little thought, therefore, will show that the word "insanity" is applied to a long, graded series of cases which vary to an astonishing degree among themselves; and, moreover, that the state of the person must be *permanent* enough and *obtrusive* enough in the public mind to make the name "insanity" seem popularly applicable.

4. *The change from sanity to insanity is not instantaneous.*

Even as we watch the slow recovery of an insane person as he gradually discards one after the other of the mental perversions which have crowded his mind, so we can watch the gradual descent along similiar lines. It is only occasionally that a single day brings on the state. Usually weeks, even years, can be included by careful questioning. The practical outcome of bluntly stating the foregoing is manifold.

Prominently it will be seen that during this descent people are doing acts criminal, civil or social, whose responsibility may be afterward called in question. Secondly, this descent may be stayed in its progress at almost any stage, thus rendering less clear the decision of the mental state. For it is easy to throw distrust over the early acts of one who is found *subsequently to be profoundly insane.*

But when the early state of mental weakness *stops as such*, and never becomes openly violent or insane, it will be rarely acknowledged as such by all concerned. But that there are such cases there is no doubt.

5. As a fifth point I introduce with somewhat of hesitation and caution the statement that *we find vaguely outlined in sane people as morbid feelings, hysterical acts, etc., the same mental states "in kind" as are observed among the insane.* I will not criticise anyone for differing with me, but will put this in the form of an opinion rather than a fact. Close introspection, at least with some of us, will reveal moods of depression, perhaps cleared up by fresh outdoor walks, and replaced by a more elated tone of mind. As we compare this morbid, illogical, and practically unreasoning depression with the state of mind of a very mild melancholiac who has not defined delusions, we can see vaguely the same depressed ideas in the latter case only in a more exaggerated form. So, too, hysterical acts in their more intense and less controllable form are found to constitute a type of maniacal state.

But if one cannot find—indeed, if he have not the data to find any such resemblances—many can at least know of and follow more closely the same kind of thinking as manifesting itself occasionally in the father, brother, or some other relative of the patient. Of course, in such case it is no more

strange, probably, to inherit the perversions of mind than it would be to inherit the more natural activity. At any rate, such judgments are made quite commonly to me by those technically ignorant of insanity. They are found in such expressions as, "Well, you will find that trait all through the family." Or again, "Her mother was very nervous and unstable also." Or, "I think she gets this trouble from her father," etc. Indeed, in cases in which heredity is constantly denied by the family, and dare not be asserted by the physician, such relatives often so notoriously show mental peculiarities that even such people as hackmen, landladies, or those who have only transient knowledge will assert, though in inelegant terms, the likeness. In due caution, however, it should be said that such likeness is only an occasional one, for in the large number of cases it cannot be found.

But more clearly than we can trace in different people these resemblances can we follow the *same person* up through the varying degrees of perversion. Take, for instance, a melancholiac as he progresses through the varying degrees of intensity of such depression to a fully defined hypochondriacal or melancholiac state. This occasionally progresses so slowly and deliberately as to exhibit most or all of the intermediate gradations. By all these, as well as in reasoning by analogy, there are *in the sane* outlined vague resemblances to the corresponding *insane* states of mind.

We reluctantly set forth this last point because of the wrong inferences that may be easily drawn from it. We do not mean to speak of everybody as a little insane, but only as *more or less ideally perfect*, and as possessing *more or less of mental ability*, and more or less of mental *stability* as well. Stated in this form, we do not think much of argument is necessary to sustain the statement.

6. It is charged that people send their relatives and friends to asylums to get "rid of them." The point that we would make is that a *large proportion of insane are sent to asylums to* (*in one sense*) *get rid of them.* This is one of the true functions of the asylum as well as of the school for imbeciles, that for the deaf and dumb, for the blind, for inebriates, and for defectives generally. If one stops to think of it he will see that it is *possible* to keep outside every insane person, but that the State policy is to offer its care for them if they get very troublesome. It offers, of course, supposedly better care, both medical and custodial, than would otherwise be obtainable; but the fact remains that one of the chief functions of asylums of all kinds is to relieve people of the burden of their relatives, which burden they can only carry themselves in an imperfect and defective way. And this asylum-care has, of course, more the element of *cure* than has the home-care. This being admitted, the only question remains, "How much of trouble" should be borne by relatives before accepting the care of the State? The answer is very complicated. It needs special consideration in each case. If wealthy, of course a good deal more should be done by relatives than if very poor. The degree of trouble to be borne before sending to the asylum will be seen to vary with varying circumstances, with varying ability, and with the estimated prospect of a cure.

A good many statements with less of the philosophic character than the preceding might be added. For example, it might be said that an *asylum is not full of raving patients.* If it is an asylum of over 1000 of all grades of insanity, both acute and chronic, with approximately one new patient per day (as is the case here), three or four cases of typical acute mania are about all that are liable to be found at any one time. Again, *raving cases do not continue raving*, but most always quiet down quite rapidly. Again, the frequent inquiry for dungeons or cells leads me to say that they *hardly have existence in the United States;* I never saw any of them.

Now, how will these preceding statements, if accepted, clear up the existing confusion of mind spoken of in the beginning, for example, that problem of expert testimony over which so many are honestly stumbling. If two equally able and opposing experts give opposing testimony, does it denote either perjury or incapacity somewhere, as has been hinted? I do not wonder at the question; but in the light of our analysis I would say that the solution would appear fairly easy. The cases that come under question in this way are probably and usually those border-line cases which can be easily decided one way or the other by the same experts, by simply shifting their standard of sanity a little forward or backward. I think the main error common to experts is the assumption of a partisan instead of a judicial attitude. Knowing that the whole case—judge, jurors, and community—demand a verdict of *total responsibility or total irresponsibility* of even the most border-line case, they, impressed as they are by past experience to the same effect, swing from their actual medium position to a positive one, disregarding thus entirely the first and second points made in our analysis.

I think I can conceive of a case, not necessarily imaginary, in which I could with equal justice, and equally valid arguments, maintain either the side of sanity or insanity. Let us take a case to illustrate (of a kind not essentially peculiar, nor perhaps as good as would be the insanity of epilepsy, but chosen as being the most familiar to our readers), of an aged man, who, gradually between the ages of sixty and seventy, becomes more and more feeble-minded, until at the age of seventy actual delusions

have crept in, and he is dull, perceives imperfectly, is querulous and hard to control, vacillating with motor feebleness, and in short, is a typical case of senile dementia. This is a very ordinary picture. Now at sixty he was confessedly sane and quite able. As he grew, first irritable, later garrulous and forgetful, still later selfishly suspicious and more forgetful. until finally delusive ideas prevailed, there must be passed somewhere a time when any expert would be puzzled not over the fact but over the name. One expert might place his standard of sanity near the sixtieth year, and say that the first changes of disposition constituted insanity. Another might place his nearer the seventy-year mark, and say that only when actual defined delusions appeared could insanity be named in the case. Another might say that ordinary early senile changes were normal and physiologic, and ought not to be called insanity at all.

But, pushed logically backward from the age of seventy, every expert, if logical, would find a point of doubtful standing and a place where the name would change from sane to insane, and where therefore he could give either name equally well. Of course, if thus cornered, he would say at once that like the distinction between youth and old age, he could give the facts, and the name would not signify. Yet he would immediately, under our present court-practice, be confronted with the fact that the name does occasionally signify all of the difference between life and death for the criminal. If still of logical mind, he would say the courts then ought to change, and recognize impaired mentality of varying degree, establish various degrees or kinds of restraint or penalty for such cases.

The rationale of this discussion is thus seen to lie in the fact that the law and public opinion do not, as yet (except in a roundabout way), thoroughly recognize any gradation between absolute non-responsibility and absolute responsibility. Consequently, the expert coming on the witness-stand thinks he must give, and in fact is half-obliged to give, one of these two opinions; and he will swing to the one side or the other of his "middle" position as he thinks he most honestly and justly can. Compelling the expert to take a judicial position is the only remedy. Allow him to admit reasons for leniency of judgment in the case of the criminal whom he has adjudged sane, or, on the other hand, for a severe restraint in the case of the criminal whom he has adjudged insane, because of the varying degrees of intelligence and responsibility exhibited. Although a full recognition of this is probable decades in the future, yet we cannot think the problem of expert testimony fully solved until such recognition is made.

By common consent insanity is indefinable; it is difficult to form a definition that is inclusive of all insanity and exclusive of all forms of sanity. As Dr. C. H. Hughes outlined before the International Medical Congress, no definition can be acceptable which leaves out idiocy, feeble-mindedness, and inherited states. To this idea we simply add by carrying our thought out into the world at large, and concluding that no one is ideally healthy, no one is ideally sane. As we say that a person is physically well, in spite of some deviation from the normal, so we can say that a person is mentally sane in spite of some deviation from the normal. And as these physical deviations, growing steadily worse, must sometime take to themselves the name disease, so the mental deviation, if increasing, must take to itself the name insane.

If these are true ideas and in the line of advance, the sooner they are adopted the better. The appeal is to common sense, and to common good judgment we must leave the answer as to their truth. As to the measures that follow their adoption, the main one, of course, will be modified penalties for the criminal insane, and modified restraint for the non-criminal insane; these modifications to be graded to meet the various grades of criminality or responsibility decided upon. But we think no hasty action should be advocated. Our knowledge as yet is not accurate enough to outline more than a few of these gradations. The words "defectives," "cranks," "neuropaths," "perverts," "feeble-minded," etc., indicate, however, a strong tendency to make such distinctions by medical and non-medical men. In the Prendergast trial again, the words "not entirely and perfectly sane" were used by the Judge in his charge as indicating a state still responsible enough to deserve hanging. The world is full of such expressions as "somewhat cracked," "not quite right," "a little daft," "very queer," etc., showing that the common sense of the world has for centuries recognized a multitude of impairments of mind, even while the medical and legal wisdom has refused to recognize such for fear of social disorganization.

The *medical* ideal is to find a point of unsoundness. The *legal* ideal is to find a state which shall be of "so great" mental disorganization as to make it evident that the patient can be held irresponsible without affecting public safety. The two elements are not considering the same question, and, as a matter of course, confusion and contradictions abound. The jury practically said, Prendergast is not insane "enough" to avoid punishment for the safety of society. Of course, in border-line cases the medical and legal views do not come to a square issue, inasmuch as the attorneys will befog the case for their own benefit, and the Judge will be thus the only one left to try and make it clear.

I think the first thing that comes to mind in considering any such doctrine as that of a modified but not destroyed responsibility is, that it unsettles free will and all complete responsibility, leaving us without a firm foundation to which to pin any faith. But this is but a most superficial view; a little inspection will show that we never can know, with even close approximation, a man's mental or moral standing, anyhow. It will show, logically, if man is not considered physically completely well and capable, or, per contra, absolutely incapable, that therefore insanity, considered as a symptom of physical changes, follows the same law of gradations instead of taking a position at one extreme. That to assume some exact and instantaneous line of division between sanity and insanity is to assume something contradicted by facts and by analogy itself.

If modified penalties were provided for the decisions of judges and juries they would decide more cases to be insane when so argued by the physicians. As it is now, the juries all know that it is wrong and dangerous to let such a man as Prendergast free; and they therefore override the testimony of insanity because they believe in some way that society should be protected; and in the latter idea *they are right.* It is evident that all men of homicidal tendencies ought to be restrained somewhere, and it is also evident that an insane paranoiac proved guilty of homicide ought to be committed somewhere for life in spite of insanity. The safety of society demands such restraint, and such provision would be much more wise than to hang some and let others go free after temporary detention.

For a last point, to the person who still fears the effect of admitting the doctrine of modified responsibility, we would seemingly only need to point to the fact that they themselves have admitted such a state frequently and easily, and have not found any disorganization of society to occur thereby. In young children we have practically a partial responsibility. As infants they are regarded at first as not at all responsible—later, as somewhat responsible, yet not suffering penalties by law for criminal acts; later, they become more responsible and receive modified penalties, such as the reform-school or asylum; later still, under the law of penalties, they are judged criminal, yet within allowances made for their youth; while finally, at adult life, they receive the full penalty of the law. If, then, children are so judged, what more of essential difficulty will there be in adopting modified responsibility by reason of *acquired* defect for such defectives as inebriates, the somewhat feeble-minded, and those in the earlier stages of insanity?

In final conclusion, then, we may be pardoned, if we regard the foregoing doctrines as based upon sound foundation, even though so far in advance of the times as not yet to have full recognition. Of course, a full study of the details is only for medical investigation and long medical experience. We cannot see that it will ever be possible that the judgments as to insanity can be given over to any kind of a jury in the place of medical men. For, as students of this special branch, we look back at the vague ideas of insanity which we had before making a specialty of it, and note the gradual growth of perception of accuracy which have come with such study since that time. We realize that it is only by medical and philosophic study of long duration that the greatest accuracy can be obtained.

Yet on the other hand it is manifest that popular ideas are daily overriding or setting aside such principles as are established by such long study, and that there is necessary an advance in popular ideas so that expert opinion will be accredited and accepted.

SOME OBSERVATIONS ON A METHOD OF MULTIPLICATION OF THE AMŒBA DYSENTERIÆ (AMŒBA COLI).

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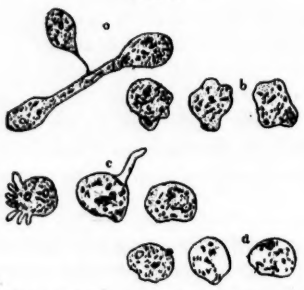
So much has been written during the last few years, both in this country and abroad, concerning the amœbæ dysenteriæ, and so general is growing the belief that they are the main causative factors in the production of certain very important pathologic processes, that every fact connected with their life-history becomes of interest and possibly of importance. Notwithstanding the numerous studies of these organisms that have been recorded, no direct observations, so far as I am aware, have been published concerning any method of reproduction. It is true that Kartulis succeeded in cultivating them in alkaline straw-infusions, and has described non-motile granular bodies that he supposed were spores; but, so far as I am able to learn, this was a mere inference based on no positive evidence. As other members of this group frequently multiply by direct division it naturally suggests itself that the same would also occur with these, but the failure heretofore to observe this seemed to indicate that if such is actually the case it must be of rare occurrence or does not happen out of the body at all.

During the last three years I have very frequently studied these organisms, and, although indications of reproduction were always watched for, never did I meet with more than a suggestion of this until July 16, 1894, when, while examining the fecal discharge from a patient who had relapsed two weeks before from what was apparently a complete recovery from the chronic form of amebic dysentery;

I noticed a large ameba lying in the situation shown in Fig. 1, *a*.

The main body of the ameba was elongated to many times its width and clubbed at either extremity. The lower portion of the body moved down the field more rapidly than the upper, causing a constriction near the middle, which progressively grew smaller and smaller; there had been apparently a pseudopod sent out, and following this, a constriction between its distal end and the body of the ameba,

FIG. 1.



Showing triple division. *a*. When first seen. *b*. After segmentation. *c*. Amebæ, with small and very unusual pseudopodia. *d*. One hour after division.

so that, when first seen there was a small band, not wider than 1 μ, but of considerable length, connecting the two bodies; this band was composed entirely of ectosarc. In perhaps half a minute after the ameba was first seen the thin ectosarc-rod joining the pseudopod with the main body parted near the middle, the ends becoming immediately rounded, and being drawn back rather quickly into the larger masses to which they were respectively attached; a few seconds later the body of the ameba divided at the point of greatest constriction, the ends being at first irregular, but becoming quickly covered over by the ectosarc. Even until division occurred the narrowest point of the body was 4 or 5 μ wide, and the ectosarc was continuous through the center. The two bodies produced by this separation, as the body previously liberated had done, at once became more or less rounded, moved, threw out pseudopodia, and in both movement and appearance in every way resembled ordinary amebæ.

In Fig. 1, *b*, are shown the relative position and form of the organisms about three minutes after segmentation. They seemed to retain but little vitality after division had been completed, which was possibly due to the fact that they had been passed several hours before and were examined at the temperature of the room; the weather, however, was very warm. Notwithstanding that there was but little progressive movement, for a time two of the amebæ sent out many pseudopodia, the character of some of which was very peculiar and like none I had before seen; the peculiarity referred to was first noticed in the ameba resulting from the pseudopod about five minutes after separation, and consisted in the protrusion of pseudopodia composed entirely of ectosarc, of a uniform diameter of about 2 μ, of a length about equal to the diameter of the body of the ameba, rounded at the extremity and sometimes straight, but usually bent at one or two points; they moved slowly from side to side, occasionally lying full length upon the surface of the ameba. After a time they were retracted, except in one instance, when, while lying upon the ameba, fusion took place between the two. From the larger of the two other amebæ similar slender processes were projected, never quite so long as in the other, but often many were thrown out simultaneously, as shown in Fig. 1, *c*; those coming out in near proximity gave a strong resemblance to the villous processes that occur in other varieties of amebæ. Their movements forcibly suggested that their object was the inclusion of food-materials. The large pseudopodia were in every way like those found in other amebæ. The remaining ameba became quiescent immediately after division and gave off no pseudopodia. Their appearance after one hour is shown in Fig. 1, *d*.

No further examination of the feces was made on this day, the foregoing being regarded merely as a chance-observation, not likely soon to be repeated.

Two days later the discharges were again examined, with the result that several amebæ were seen to divide into two. No other examples of the triple division were seen. In Fig. 2, *a*—*c*, is shown

FIG. 2.

a–*c*. Showing usual method of division.

FIG. 3.

a–*c*. Showing unusual form of segmentation; the middle portion, instead of breaking, slowly fades from view.

the type of division as generally observed. The body of the ameba elongates, a constriction results somewhere about midway between the two ends,

and increases until a mere filament of ectosarc remains, which suddenly snaps asunder. Occasionally variations occur, as in Fig. 3. When first seen the ameba was lying as shown at *a*, clubbed at the ends, somewhat constricted toward the middle, and seemed to be perfectly immovable; however, after some minutes slight alterations in form could be detected, and a narrowing of the intermediate portion, with a movement which was so slight that it was at no time perceptible; the connecting band became smaller and smaller, until it gradually faded from view. The two amebæ resulting scarcely moved after division had been completed.

On the 19th of July division was again observed, but two days later, although the organisms were quite active, the most careful examination failed to show anything of the kind. The patient died on the following day. Unfortunately, no post-mortem examination could be obtained.

It should be stated, in conclusion, that the amebæ from the stools of this patient were, some months before, examined very frequently for a period of over two months, and although they were quite active and very numerous, at no time was the slightest evidence of multiplication seen. The organisms here could in no way be distinguished from those which I have examined from other cases of amebic dysentery, and, with the exception of the related peculiarities, conformed in every particular to the descriptions of the best authorities.

UMBILICAL HEMORRHAGE: ETIOLOGY, PATHOLOGY, AND TREATMENT. REPORT OF A CASE.

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HEMORRHAGE, occurring at birth or soon after, from the umbilicus may be caused either by loose ligature of the cord or laceration of the same, or from pathologic conditions present in the blood-vessels or blood of the infant. It is with the latter variety, or true umbilical hemorrhage, that this paper has to do. Cases of this kind, unless the hemorrhage takes place from the umbilicus itself, and not from laceration or faulty ligature of the cord, are comparatively rare. The following is a *résumé* of most of those recorded:

Mr. Watts, of Kent, England (*Gentleman's Gazette*, April, 1752), reported one case. Dr. Francis Minot, in April, 1852, reported statistics of 46 cases. Dr. Stephen Smith, in 1855, reported statistics of 79 cases. Dr. J. Foster Jenkins, in 1858, published a monograph giving histories of 178 cases, and Grandidier collected the histories of 202 cases.

Taking all the statistics together, about one-third of the cases occurred in females, and two-thirds in males; but it is hardly probable that sex has anything to do with the liability to the hemorrhage.

The time of greatest danger of hemorrhage taking place seems to be after the cord has fallen, as only 18 of Jenkins' cases occurred before this, while the greatest number occurred between the fifth and fifteenth days.

The causes of umbilical hemorrhage are generally either a faulty condition of the blood, especially its feeble power of coagulating, or a pathologic condition of the vessel-wall, or both. The accident is sometimes referable to the hemorrhagic diathesis or hemophilia. As to the cause of the diathesis, syphilis may be said to be the chief one. The disease may not only so alter the blood in the infant as to destroy its coagulability, but also produces inflammatory condition in the walls of the vessels. Sir J. Y. Simpson attributed many of his cases to this inflammation, which he believed caused thickening and infiltration, loss of contractility, and, therefore, a patulous condition of the vessel-walls.

Jaundice is sometimes accompanied by bleeding from the navel, and the icteric hue is nearly always present in umbilical hemorrhage. A condition of ill-health or anemia in the mother, due to any cause, produces a certain degree of a like condition in her offspring, and in this way may be an indirect cause of a liability to hemorrhage. Rarely, no cause can be found either in infant or parents.

The manner of occurrence of umbilical hemorrhage is interesting. Generally, without premonition, the first thing noticed is that the baby's clothes are soaked in blood, although this is sometimes preceded by jaundice. Out of 175 cases, 41 were so preceded. Colic, clayey stools and vomiting may also precede the bleeding. The blood may ooze slowly or rapidly. The most dangerous hemorrhages are those that occur at night, and in which a large amount of blood is lost before they are discovered.

As regards prognosis these cases are nearly always fatal, about ninety per cent. of infants so affected perishing. When jaundice and hemophilia are present the case is almost hopeless, while those cases having healthy parents, and in which the blood flows very slowly, stand a much better chance. Death occurs from exhaustion in from a few hours to three or four days.

The treatment may be summed up as follows:

1. Apply a compress of lint or sponge, soaked in an astringent solution, such as tannic acid, over the umbilicus.

2. If bleeding does not cease, cover the umbilicus with a thick layer of plaster-of-Paris, held in place until it hardens, and then bind this down with a bandage.

3. As a last resort employ the needles and ligature, passing two needles through the umbilicus at right angles, and wind the ligature around each in the form of a figure 8. These can be removed, if the infant survives, in four or five days and an iodoform-dressing applied.

4. A laxative should be given if indicated, and a few drops of brandy in sterilized milk as stimulation is needed.

At 9 P.M., October 5, I was called to attend L. S. in her confinement. She is an American woman, forty-one years of age, and has had four children, all of whom were and are healthy, the youngest being now ten years of age. After a long labor, due to defective pains, she gave birth to a boy weighing about seven pounds. At the time of birth he was nearly asphyxiated, but was finally brought around; the cord was carefully tied and washed, and the child placed in bed, where he was quietly sleeping when I left the house. On my visit next morning I found both mother and baby doing nicely. Early the next morning I was awakened by a messenger who said that the baby's cord was bleeding. I hastened to the house and found the child's clothing soaked with blood, and on removing it, saw that the blood oozed from the point of juncture of the cord and the floor of the umbilicus. I at once applied a compress, and the bleeding ceased in a few moments. The mother said that waking in the night, she lifted the baby, and in so doing felt something warm flow over her hand. Calling for a light, she saw that the baby's clothing was covered with blood, and at once sent for me. The blood was not clotted in the least, nor would it clot. On my call later on the same morning, October 7, I found that the bleeding at the umbilicus had ceased, but was told that the baby had vomited blood several times. For this I ordered grain-doses of tannic acid, to be repeated every hour until the vomiting ceased; and on calling that evening found that no more blood had been vomited. The next morning (October 8), I found that no more vomiting had occurred, but that the child had a jaundiced look. Later in the morning I was again called, and on reaching the house found the baby's clothes over the abdomen saturated with blood, and on removing them, I found the blood oozing rapidly from the umbilicus. I at once applied plaster-of-Paris, which stopped the bleeding, but the baby died in a few moments afterward. At the time of death the skin was deep-yellow in color, and there were numerous purpuric spots over the forehead.

I was unable to procure permission for a post-mortem examination. The fault in this case lay in the blood of the child, no doubt, as it would not coagulate.

A remarkable feature of the case was the occurrence of intestinal hemorrhage on stopping that at the umbilicus, and the re-establishment of the umbilical hemorrhage after the vomiting of blood had been controlled by the tannic acid.

I could obtain no history of syphilis or other constitutional disease in the parents.

GUAIACOL EXTERNALLY IN TUBERCULOSIS.

BY J. SOLIS-COHEN, M.D.,

PHYSICIAN TO THE HOME FOR CONSUMPTIVES, CHESTNUT HILL; HONORARY PROFESSOR OF LARYNGOLOGY, JEFFERSON MEDICAL COLLEGE; EMERITUS PROFESSOR OF DISEASES OF THE THROAT, PHILADELPHIA POLYCLINIC, ETC.

IN THE MEDICAL NEWS of September 30, 1893, I published a "Preliminary Note on the Pronounced Effect of the Endermatic Use of Guaiacol in Controlling High Temperature in Tuberculosis." After more than a year of continuance of the treatment it is worth while to add my present satisfactory impressions of the remedy, the result of its use in something under fifty cases, some thirty of them in the Home for Consumptives at Chestnut Hill, and therefore under peculiarly favorable surroundings.

We began in that institution with a dose of ♏ xlv, as had been recommended in the French journals. This dose was far too great in the climate at Chestnut Hill, and sometimes produced positive collapse. So rapidly did the temperature fall that the lips and finger-tips of the patient soon became blanched, the cardiac impulse weak, and the perspiration profuse. We then diminished the dose. We found ♏ xxv a good average. Some patients did equally well with doses of ♏ xx, ♏ xv, and even of but ♏ x.

Free perspiration is a good indication of satisfactory action of the remedy; the temperature falling more rapidly the more free the perspiration. When perspiration is slow, hot milk or other hot drink given just before the remedy is applied, or hot water-bags placed along the surface of the body, will favor the perspiration.

Temperature reduced with ♏ xv of guaiacol does not remain reduced for so long a period as when reduced with larger doses. It will generally rise again on the following day. If a dose of ♏ xx or ♏ xxv is then rubbed into the same patient there will probably be a prompt reduction of three or more degrees, perhaps even a degree or so below the normal standard, with return to normal in a few hours, and continuous maintenance of the normal temperature for three or four days, a week, or longer. This normal temperature was maintained for six weeks in one of our hospital-patients.

Should the temperature fall very rapidly from 103.5° or 104° to below normal, with profuse perspiration, the patient will feel cool and comfortable the cardiac impulse will remain unimpaired, and the lips and finger-tips will continue rosy until the temperature has dropped to about 99°. Then, if the temperature continues to fall, as it sometimes does, to 97°, or even to 96°, the sensations of comfort are replaced by sensations of chilliness, and the rose-tint of the lips and the finger-tips becomes empurpled. A hot drink and a hot-water bag at the side will send the temperature back to normal in a few

minutes, and the patient may fall into a refreshing sleep.

The method of using guaiacol at the Home for Consumptives is as follows: The skin where the guaiacol is to be rubbed in is well washed with soap and water, and then thoroughly dried. The place selected is a matter of indifference, but we have usually chosen a spot over the seat of greatest lesion of the lung. Ten or more minims of guaiacol, as may be wanted, are poured into a dish, whence it is taken up upon a camel's-hair pencil and brushed upon the parts, back and forth, until the whole dose has been absorbed. This will take ten, fifteen, or more minutes. Then the part is rubbed dry with the hand, after which it is covered with a layer of cotton protected by paraffin paper or oiled silk. In many cases the temperature drops a degree or more before the rubbing is completed, and two degrees within thirty minutes of commencing the application.

When the patient is near death, and the temperature elevated in consequence of the approach of dissolution, guaiacol in the doses in which we have applied it had no effect in arresting continuous rising of the temperature.

It may be concluded that the endermatic use of guaiacol, when carefully employed, often promotes the comfort of the patient in a manner which cannot be obtained from its use by ingestion, by subcutaneous injection, or by direct injection through the air-passages.

ORIGINAL LECTURE.

ANTERO-LATERAL SCLEROSIS; POSTERIOR SCLEROSIS; PATHOLOGY AND TREATMENT OF LOCOMOTOR ATAXIA BY SUSPENSION AND BY APPARATUS.[1]

BY DE FOREST WILLARD, M.D.,
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AND

GUY HINSDALE, M.D.,
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THE degenerations of the spinal cord, or the system-diseases of the cord, constitute the most hopeless class of affections in spinal pathology. Insidious ofttimes in their onset, relentless in their advance, cutting off one by one the means of progress, the exercise of the senses, and the control of the mind, these diseases have long been treated in vain. Why should we be content to calmly listen to the funeral march as these patients are borne, one by one, to their final resting place? In the language of a distinguished teacher, we are saying to them as they enter our consulting-rooms: "My dear sir, you have a strip of fibrous tissue in the back part of your spinal cord; it is very small, but it will get bigger, and you will grow worse. Why it comes there I do not know, and why I cannot stop it I cannot understand; but I have triangulated your nervous centers, located the lesion, and if I ever get your cord I can dye the affected part a beautiful orange-yellow or a bright carmin-red."

The whole range of the scleroses and palsies of various types has waited patiently, despairingly, at the fountain of science. We can pity the patients, but our outstretched arms seem powerless to save. We are encouraged, nevertheless, to find some faint streaks of light in the East that are beginning to dispel the gloom that has overshadowed us and that are ushering in a day of new things,

Although, as a rule, the scleroses of the cord are gradual in their onset, and although it is customary to ascribe to slowly-operating causes their production, yet cases of acute locomotor ataxia are not infrequently observed. It is quite likely, also, that traumatism is the initial cause oftener than is generally supposed. Careful inquiry will sometimes elicit the fact that the disease dates from an injury to the back, or that a slight accident has hastened or developed an attack. It has happened that a man has received a blow upon the back producing myelitis with paraplegia and sensory disturbances of the lower extremities; the disturbances, let us say, were chiefly on the left side; a second injury was sustained, and ataxia and loss of knee-jerks supervened.

It is probable that in persons of a neurotic predisposition, locomotor ataxia is precipitated by traumatisms of even a slight degree. Spillman and Parisot have analyzed fourteen cases of tabes associated with peripheral injuries of various kinds, and they cite fractures, contusions, and wounds of the extremities, the extraction of teeth, or even the operation for cataract, as precipitating the disease. But here, as elsewhere, the danger is that *post hoc* is not always *propter hoc*.

Acute locomotor ataxia, according to Leyden, may follow acute diseases; it may succeed to diffused neuritis. It may begin as traumatic myelitis or as meningo-myelitis. We are not without evidence that there is a tendency toward secondary degeneration of a particular set of fibers after a local accident to the cord, such, for example, as compression-myelitis. In a recent case of Preston's, of Baltimore (MEDICAL NEWS, March 18, 1893), this was well shown. In this instance a man, aged twenty-three, was crushed by a bank of earth. There was no external injury of note. There was entire loss of sensation and of motion below the level of control over the bladder and rectum. The superficial and deep reflexes were abolished. Bedsores of a trophic nature formed. Death occurred on the fiftieth day, and examination showed a fracture of the last dorsal and first lumbar vertebræ, with compression of the cord. A microscopic examination showed degeneration of the posterior columns reaching into the cervical region. On the other hand, there may occur a degeneration also of the lateral and direct cerebellar tracts.

Following an accident an ascending degeneration of the posterior columns and direct cerebellar tracts may ensue, and at the same time a descending degeneration of the crossed pyramidal tracts of the lateral column. Such a case was reported to the College of Physicians

[1] One of the Mütter Course of Lectures delivered before the College of Physicians of Philadelphia.

of Philadelphia, four years ago by Meigs (*Trans. College of Physicians*, 1890). In this instance a sailor was struck by a wave and dashed against the bulwarks of a vessel, causing him to strike the back of his head and neck against the rail. He at once lost all sensation and power of motion from the clavicle downward, and from the time of the accident he had retention of urine and incontinence of feces. Post-mortem examination thirty-six days after the accident showed that there was neither luxation nor fracture of the spine, but there was a small extra-dural hemorrhage into the spinal canal at the level of the seventh cervical vertebra. Microscopic sections of the cord above the seat of injury showed degeneration of the posterior columns (columns of Burdach and Goll), of the whole of the direct cerebellar tract, and of a portion of the antero-lateral ascending tract, while below the seventh cervical vertebra the crossed pyramidal tracts of the lateral column were degenerated. (See illustrations in article alluded to.) In the lumbar region the lateral limiting layer and the direct cerebellar tracts, together with the enclosed crossed pyramidal tract, were degenerated, though in less degree than the latter. Cases of this kind and other cases in which the traumatism is not so severe show that after the primary lesion has cleared up a system-lesion may be left as a residuum in the cord.

The relation of the different forms of myelitis to the various scleroses has not yet been investigated as it should be, and it offers an excellent subject for special study. How far these affections are a part of the process of inflammation is a matter of dispute. The term is broad enough to embrace the most flagrant febrile process as well as the chronic succession of changes pervading an organ or certain tracts of tissue, and disclosing, after years of existence, simply a hyperplasia of fibrous tissue without any febrile symptoms having been observed.

At the foundation of all inflammatory processes lies the principle of infection, and it is not altogether unlikely that all cases of myelitis and all the scleroses, whether primary or secondary, may in the future be harmoniously related to their respective infections. How far we may be carried by the present all-pervading belief in the microbic origin of these diseases we cannot now say, but I note that no less an authority than Dana has recently published a paper entitled "The Microbic Origin of Chorea, with a Case," (*Trans. Amer. Neurolog. Assoc.*, 1893). Dana found diplococci in the superficial layer of the cortex and in the deep layer of the pia, in which situation there were cellular infiltration and degenerative changes, and in the medullary and upper part of the cord there were evidences of meningeal irritation, vascular disease (arteritis) and nerve-root irritation. At the Congress of American Physicians and Surgeons, in 1891, Dana discussed the nature and causes of the scleroses of the spinal cord, and announced his faith in the newer pathology. The old belief that sclerosis of the cord is a parenchymatous inflammation with secondary growth of connective tissue is giving way. It is a degenerative process, showing under the microscope a gradual decay and death of the nerve-fiber and cell. In some sclerotic processes, like locomotor ataxia, this decay is accompanied by the development of irritating products, leukomains or tox-albumins, which may produce so active a change in the connective tissue as to lead to something resembling a secondary or reactive inflammation. Just what is the ultimate cause of these degenerative processes is not known. As yet no microbe has been discovered. We have simply the toxin theory—a working hypothesis—a disturbance that may be likened to that which has been observed upon the solar system, and which the French astronomer knew was due to an undiscovered planet.

Some believe that this is a steadily secreted poison in the human body, and that it is constantly acting on diseased tissue; they bring in evidence the fact that many degenerative processes follow syphilis and the infectious fevers, and they account for it in the suggestion "that pathogenic germs have poured into the system a poison or have so modified the cellular nutrition that there is a poison constantly thrown out which irritates and destroys certain areas of nerve-tissue."

Then, again, in Friedreich's ataxia, the hereditary form of sclerosis, it has been shown that certain strands of the spinal cord were never endowed with vitality enough to carry on their functions for more than a decade or two. With this premise some have enunciated the view that by the presence of the poisons of certain infectious organisms the nerve-cell is stunned and its growth stunted; it follows that nutritional equilibrum is destroyed and premature senility and death are brought about.

Sanderson in his Croonian Lectures on the "Progress of Discoveries in Relation to Infectious Diseases" (*Brit. Med. Journ.*, 1891) states, that whereas degenerative diseases do not follow those infections which do not confer long immunity, such as diphtheria, sepsis, erysipelas, tuberculosis; and whereas on the other hand, diseases that do confer long immunity, like typhoid fever, measles, scarlet fever, smallpox, syphilis, etc., are most likely to set up degenerative changes, it would, therefore, not seem unlikely that the very thing which protects against recurrence of infection may be the cause of some internal degenerative change? It is probable that immunity is secured through the modification of cell-nutrition and through the continued presence of some antitoxin in the liquor sanguinis.

It is important to bear in mind in connection with researches in the pathologic anatomy of the nervous system that there are important and often misleading changes, both gross and minute, produced in the spinal cord by injury during its removal from the body and its preparation for microscopic study. Attention has been called to this subject by Van Gieson (*N. Y. Med. Journ.*, 1892), who has compared the lesions produced by bruises with the conditions found in a number of reported cases of malformation of the cord. The lesions artificially produced are reduplications of the gray matter, irregularly shaped horns, canals, cyst-like spaces, and misplaced gray matter, and they may be produced any time at an autopsy by careless technique or bruising. It has been shown that just such artefacts have been erroneously described as congenital malformations or as the result of pathologic processes, and have given occasion for extensive and interesting speculations as to their supposed relations to the production of disease-processes.

Among the surgical measures that have been adopted in the treatment of lateral and posterior spinal sclerosis,

suspension has been the most widely employed. The apparatus used was brought to the notice of the profession by Motschutkowski, of Odessa, Russia, and about the same time Charcot reported encouraging results from its use in France. Three or four years previously Dr. Weir Mitchell had adopted the same measures in two cases of sclerosis, but failure to obtain good results prevented further trial at that time. The measure in itself is not by any means a new one, having been used as long ago as 1826 by Prof. J. K. Mitchell in cases of Pott's paralysis; in fact, it has been in use for centuries for various conditions of the spinal column. Motschutkowski made his observations first on a tabetic patient to whom he was applying Sayre's plaster jacket for the treatment of spinal curvature. He noticed a remarkable improvement in certain symptoms. Raymond, of Paris, who was in Russia on a scientific mission called Charcot's attention to the Russian publication.

Without going into the history of this procedure it will be enough to say that an enormous amount of literature appeared upon this subject in 1889. Five-hundred-and-sixty cases are reported in which suspension was adopted, and several valuable papers on this subject were published in the *Transactions* of this College in that year. The treatment has been extensively adopted in Philadelphia since that date, but with varying success. For a time almost every large hospital in this and in other cities gave the plan a fair trial. The various reports claimed improvement in a proportion varying from 30 to 87 per cent., the highest being Motschutkowski's original record, but no cures were noted.

In 1890 Dr. Guy Hinsdale, of Philadelphia, reported twenty-three cases treated at Dr. Weir Mitchell's clinic at the Orthopedic Hospital and Infirmary for Nervous Diseases. Of the twelve cases which had fifty or more suspensions, in seven there was reported a lessening of pain; in two there was no change; one had no pain to start with and none at the end of treatment; while in two the pains were worse. As to sexual power five reported increase; one, lessening; one had always been good; and one not stated. In no case was there such a gain in sexual power as to make a man competent who had been incompetent before the commencement of the treatment. The gait was improved in four cases; in seven it was unchanged. Station improved in six; was unimproved in four, and was good to start with in two. Knee-jerk was unchanged in all the cases. Bladder-control was impaired in four; rectal control was unaffected. In general it was found that many cases feel an indescribable sense of gain from suspension. They feel better, eat better, sleep better, and wish to continue the treatment. Now that the novelty of the treatment has worn off, it is natural to find fewer cases at present being treated by this method.

At the University Hospital suspension has yielded fair results, and by the kindness of Dr. C. S. Potts I am enabled to give the results in the following cases hitherto unpublished. In a total of eleven cases four were very much improved, and the remaining seven, while not sustaining any marked improvement, invariably felt better for some time; and several of them after the treatment had been stopped returned requesting to have it continued. The special symptoms relieved were the pain, incontinence of urine, sexual weakness to some extent, and several in whom muscular weakness of the legs was present felt much stronger after the suspension.

The apparatus used was that of Charcot, as modified by Mitchell, in which the elbows are displaced in slings, a band around the waist preventing the arms from getting away from the chest. In this way the force applied to the head may be easily regulated. The duration of suspension was one-and-a-half minutes at first, gradually increasing to four minutes. The only bad symptoms reported were subsequent attacks of vertigo; one fainted the first time, but bore it well afterward; the patient, however, was in an enfeebled condition. It is proper to state that all but three of these patients took, in addition, internal remedies, potassium iodid, mercury, etc. The treatment was certainly palliative if not curative.

The following are synopses of three cases in which improvement was observed.

CASE I.—Mrs. S. was in the first stage of locomotor ataxia, probably of specific origin. She had been treated with anti-syphilitic remedies for some time with benefit, except that severe burning pains in the feet were not relieved. She was then suspended every day for six weeks, and the pains almost entirely disappeared in that time.

CASE II.—T. P. had been ataxic three years, and unable to walk without a person supporting him. He suffered from incontinence of urine and gastric crises. After the third suspension he felt better; after the fifth he could walk without assistance, and the bladder-symptoms were much improved. After two weeks' treatment he had an erection of the penis, the first for over a year. This recurred every morning throughout the remainder of his treatment. At the end of a month of suspension he returned to his home, able to control his urine and to walk much better; and his attacks of vomiting and pain were much less frequent. In addition to the treatment by suspension he took silver nitrate for two weeks.

CASE III.—The disease was of specific origin. The man had had internal treatment for seven months without much improvement. He suffered pain in the legs, sexual weakness, and was unable to walk a block without sitting down. After suspension his pains ceased, his legs grew stronger, and after treatment on alternate days for four months he returned to his work as a shoemaker. One year later he was married, and since that time a child has been born.

Stewart has reported (THE MEDICAL NEWS, Sept. 12, 1891), from the Jefferson Medical College, a case of postero-lateral sclerosis which showed remarkable improvement as to gait, station, and tactile sensation. The patient was suspended three times a week for five months, suspension being made as frequently by the head alone as with the arm and head supports. The duration of each treatment was about five minutes.

That suspension produces a change for the better in many of these refractory cases has been definitely proved, but just how it acts upon the living spinal cord is still a matter of conjecture. Measurements show an elongation of the spinal column amounting in some instances to one-and-a-half inches. This stretching involves in its tension the surrounding structures, the muscles and tendons, and also the spinal cord and dura mater, and spinal nerve-roots. Adhesions from chronic meningitis are broken down, and it is possible, but not proved, that

this allows a freer transmission of nervous influence along the nerve-tubes, more especially those which run on the surface of the posterior columns. Hegar's post-mortem studies show that in the dorsal region the dura of the cord is lengthened 5 mm. by moderate flexion of the spinal column. He produced this by placing blocks under the chest and abdomen, and bending the neck, the legs being free. Strong flexion was found to increase this length to 7 mm. The dura returned to its normal length on placing the cadaver in a straight position. Hegar laid bare both sciatic nerves, inserted threads at different levels and made a strong pull. The distance increased one millimeter; the spinal column was again flexed and the distance increased six millimeters, and in this position the sciatic nerves were strongly pulled and the distance increased eight millimeters. The spinal column was next exposed, and the two threads were stitched into the substance of the cord at a distance of 15.35 c. m. from each other. Moderate flexion lengthened the cord 0.75 c.m., and strong flexion over 1.05 c. m. Thus it was shown that the cord itself allows greater extension than does the dura.—(Douglass Graham, Hegar, *Wiener med. Blätter*, 1884, No. 3.)

Cattani has shown that stretching of nerve-trunks is accompanied by tearing of the axis cylinder, stretching of the medullary sheaths, with subsequent degeneration and regeneration. Such manipulation of the nerve tissues doubtless makes a great change in their vascularity. Just as Swedish movements and massage renovate the muscular system, so it is highly probable that flexion and extension of the cord and the accompanying stretching that occurs combine to alter and improve the nutrition of the tissues affected.

The first surgeon to apply *stretching of peripheral nerves* in a case of ataxia was Langenbeck. This operator stretched the sciatic, and improvement at once followed; the pains were diminished in a remarkable degree, and the incoördination became less. The experience of other operators has not been satisfactory, however, and it is only in cases in which the pain is intense and referable especially to the sciatic nerve that nerve-stretching should be considered. All theories proposed to explain the action of this procedure have failed to satisfy the profession, and "it would seem now to be passing into merited disuse" (Gowers).

One of the remarkable features of the surgical pathology of spinal scleroses, particularly of locomotor ataxia, is an occasional trophic alteration of skin, teeth, bones, and joints. Prof. Charcot's name is identified with the knowledge of these spinal atrophies, while other French writers, notably Ball, Oulmont, Bouchard, and Dejerine, and in this country Dr. H. C. Wood and J. C. Shaw have rendered important contributions to the subject. Charcot depicts on the one hand cases of extraordinary wasting of the articular ends of the bones. In a femur it was found that the head and most of the great trochanter had disappeared; the edge of the acetabulum had atrophied to a corresponding degree. On the other hand, the changes to which attention was first attracted are those of swelling of the joints and thickening of the bones. (Fig. 1.) While it is possible for any of the joints to become affected, the arthropathy is more common in the knees, the ankles, and the small bones of the foot. (Fig. 2.) This typical swollen foot has been characterized by Charcot as "la pied tabetique." The tabetic hand (Figs. 3 and 4), as well as the tabetic foot, may occur, and the example which is shown in the drawing from the publication of M. Ball is characteristic; it is extremely rare, and Dr. Wood, who has portrayed it in his work, says that he has never seen an example.

FIG. 1.

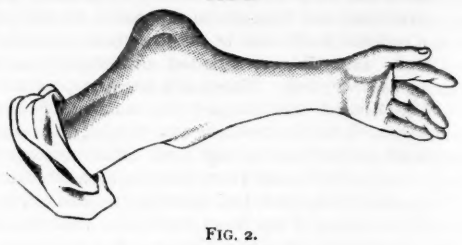

FIG. 2.

FIG. 3.

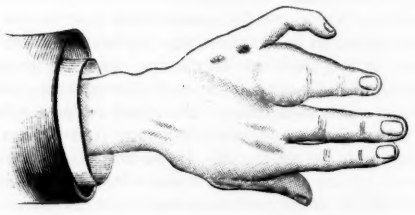

FIG. 4.

Tabetic bones in the stage of hypertrophy have been carefully analyzed in France; the phosphates were found to be greatly diminished, but the fatty matter in the dilated Haversian canals was enormously increased. "The histologic and chemic results show a strongly marked resemblance between the bones of locomotor ataxia, of osteomalacia, and of general paralysis" (Wood). An atrophy secondary to hypertrophy succeeds in advanced cases of tabes, and in such cases fractures of the long bones are liable to occur. When this happens there is apt to be rapid and excessive formation of callus; or again, it is possible to have

atrophy in one limb and enlargement in the other. Thus, in locomotor ataxia, as in general paralysis and allied diseases of the nervous system, the changes in the bones are of a trophic character, tending to atrophy and hardness; or, on the other hand, there may be permanent alterations related to those found in osteomalacia.

Much light has been thrown on the occurrence of atrophy in tabes by the discovery that in some cases of locomotor ataxia the nerves themselves are the seat of the disease. Investigations of the peripheral nerves in tabes by Dejerine, Goldscheider, Shaw, and others show that the ganglion-cells of the anterior horns of the spinal cord are not always accountable for the atrophy, but that the peripheral nerves as far as the atrophied muscles have undergone disease, in cases in which atrophy is the marked symptom.[1] Atrophy in tabes usually affects the lower extremities, and as it progresses the muscles and tendons undergo shortening, giving rise to contractures and fixation of the neighboring joints. Much of this contracture and fixation is due to want of use, as well as to spinal arthropathy. Attempts have been made to produce these bone-changes artificially in animals by operations upon the nerve-centers, so that, if possible, degeneration might occur in the spinal cord with a resultant lesion of the joints. Giacomo (*Soc. de Biologie*, March, 1885, p. 156, quoted by Wood), in a very large dog cut the posterior roots of three lumbar nerves between the ganglia and the cord. After some months the joints of the left foot became enormously swollen and edematous, without increase of sensibility or temperature. At the autopsy it was found that secondary degeneration had occurred in the spinal cord at a level corresponding with the joint-changes.

In cases of tabes which extend through a comparatively long period of time, degeneration of the peripheral nerves may involve the patient in another very serious change, to wit: symmetrical gangrene of the toes. I am not aware that such cases have been reported in Philadelphia, but a recent case of Pitres, of Bordeaux, presented this condition in the following history:

The first symptoms of tabes were observed in 1875; five years later lancinating pains in the legs began, and the chief clinical features of the case were well established; ten years later the patient felt as though his toes were dead during cold weather, while in hot weather they became blue and swollen and pained greatly.

In the sixteenth year from the onset of this train of symptoms gangrene became fully developed in all the toes of the right foot and in the great toe of the left foot. The patient dying by accident shortly afterward, the usual condition of the spinal cord was found, together with a very marked degeneration of the corresponding peripheral nerves. Nevertheless, numerous apparently normal nerve-fibers existed. (*Revue Neurologique*, May 15, 1893.) Another case of symmetrical gangrene of the toes occurring in a tabetic patient has recently been recorded by Kornfield (*Wiener med. Wochenschr.*, November 5, 1892.) An interesting feature of the case was a certain resemblance to cases of syringomyelia viz.: in the characteristic dissociation of sensibility; or, in other words, symptoms of posterior poliomyelitis, anesthesia to pain, to heat, and to cold, with preservation of tactile sensibility and of the muscular sense. But, on the other hand, there was no characteristic muscular atrophy. Post-mortem examination showed, besides the sclerosis of the posterior columns, an acute inflammation of both peroneal nerves, fully explaining the occurrence of gangrene. (Fig. 5.)

FIG. 5.

Those who have investigated the peripheral nerves in tabes concur in finding the most decided changes in the peripheral ends. The microscope shows the myelin broken up into irregular masses of various sizes; later on absorption of this granular-looking material occurs, and the sheath of Schwann is found empty and shrivelled. The axis-cylinder frequently remains for a long time unaffected, and in some specimens it can be seen very sharply stained by carmin in the sheath with very little myelin around it. (Shaw, *International Clinics*, vol. iii, 1892.)

The view is gaining ground that tabes is a more diffused lesion of the cerebro-spinal axis and of its branches than has hitherto been realized. It would be much better in post-mortem studies of locomotor ataxia if attention were not riveted too closely to the spinal cord, but that more attention be given to the peripheral nerves and to the arterial blood-supply of these and of the spinal cord. Gowers has called attention to this, and lately Preston (MEDICAL NEWS, July 8, 1893), attributes to arterio-sclerosis of the intercostal vessels a diminished amount of blood in the spinal cord, and in consequence of this imperfect supply of nutriment an atrophy and degeneration of the nerve-elements. As a consequence of this degeneration of nerve-matter there starts partly from the sheath of the nerve, partly from the bloodvessel, an outgrowth of connective tissue, which in its turn encroaches upon this often less resistant nervous matter, giving the characteristic picture of sclerosis. Preston shows that the etiologic factors, by common consent conceded to be the most important in the causation of tabes, viz: syphilis, exposure to cold and wet, or rheumatism, and alcoholism, are the exact conditions most

[1] J. C. Shaw, International Clinics, 1892, vol. iii, p. 176.

favorable to the development of arterio-sclerosis. Acting on this supposition, he has suggested the use of nitroglycerin in order that the small branches of the spinal arteries may be dilated and a larger supply of blood be afforded the cord.

In the surgical treatment of these pathologic conditions it is obvious that but little can be done. Contractures occur so late, marking the hopeless progress of the affection, that interference by the surgeon can only avail little. The condition of the limbs can, however, sometimes be benefited by tenotomy when the existing degree of incoordination does not present an insuperable obstacle to locomotion.

CLINICAL MEMORANDA.

A CASE OF GLAUCOMA SIMPLEX.

BY GEORGE M. GOULD, M.D.,
AND
E. M. HEWISH, M.D.,
OF PHILADELPHIA.

THE peculiar interest of the case here reported resides in the progress of an attack of uncomplicated or simple glaucoma to comparative blindness without the usual symptoms consisting in or consequent upon an excess of ocular tension, with no pain, headache, etc. The diagnosis depended solely upon the recognition of the existence of a deep pathologic cupping of the disc.

Mrs. B., seventy-three years of age, an active and, for her age, a healthy woman, consulted Dr. Hewish for a simple defect of failure of vision, in the summer of 1894. Some three years ago she got glasses from an optician, but they had, of course, never proved satisfactory to her. Owing to myosis, examination of the eye-ground was impossible until temporary dilatation of the pupil had been secured through a mydriatic. The pathologic cup was at once recognized, and treatment by eserin was instituted. Vision of the right eye had become reduced to a mere macular perception of light, and of the left eye to a macular counting of fingers. At no time was the tension of the right eye above normal, and that of the left eye, if it were really at all "plus," was only very slightly so. The anterior chambers were quite normal in depth, or but very slightly shallower than normal. There was no injection of the conjunctiva, no sensitiveness to touch, and no marked corneal anesthesia. No headache, pain, or even discomfort of any kind had at any time existed in or about either eye. This statement the patient persistently emphasized.

The patient absolutely refused operation, and under the circumstances we advised a temporary trial of systemic therapeutics. The patient had been confined to the house for a long time, and there was considerable constipation, but beyond this, except as regards some worry and trouble from recent family misfortunes, the woman was healthy, clear-minded, and for one of her age, very active. Laxatives, almost to purgation, and tonics were freely administered, out-of-door rides and walks ordered, and general hygienic reform instituted, but all without effect on the ocular condition. The vision, if possible, got worse. The eserin was continued for the two weeks in which we tried the measures directed to the general condition.

We now determined to have a thorough opthalmoscopic examination, not only for the purpose of establishing the diagnosis, but also to see if mydriasis would increase the vision and the tension, and to test the field,, etc. This had previously not been possible by both of us owing to the myosis. The pupils quickly responded to weak solutions of homatropin, and the disc-cuppings were found to be extreme, "undercut," typically glaucomatous in the highest degree. There was no venous or arterial pulsation of the vessels observable. Neither the tension nor the vision was noticeably increased by the mydriatic. Three days later, operation having been consented to, we performed iridectomy on the left eye. There was no gush of aqueous on opening the anterior chamber beyond that usual in normal eyes. Operation on the right eye was postponed because of the absolute normality of the tension, the almost complete blindness, and also because we concluded to await the results of the operation upon the eye that had some vision left, and that, if at all, was slightly firmer than the other. The operation, *per se*, was successful; *i. e.*, it was almost wholly bloodless and carried out easily, and a fair-sized coloboma was secured. Healing was remarkably prompt and good, no iritis or other untoward symptom supervening. The eye is now as quiet as it has always been, but vision is not improved. All local applications, including eserin, have been discontinued; the pupils have returned to a normal size, show no tendency to mydriasis, and the tension remains as uninfluenced by the operation as it had been by the eserin.

It seems remarkable that a condition essentially glaucomatous, if we may trust the story told by the ophthalmoscope, should exist without what is undoubtedly held to be the essential symptom and characteristic of the disease, that is, increased tension. With the absence of abnormal tension there has always coexisted an absolute absence of the subjective symptoms of pain and irritation. The only trouble the patient has ever remembered or complained of is visual failure. She has never seen rainbow-rings or halos about a light. Of objective symptoms there has been no heightened tension, unless very slight indeed, in the one eye, the other having gone on to blindness without, so far as can be determined, any rise whatever. There has never been any conjunctival or corneal congestion or other disorder, no mydriasis, no marked corneal anesthesia or loss of transparency, no iris-abnormalism, etc.

The case is to be held, therefore, as an extreme and perfect illustration of "simple glaucoma," concerning which Fuchs has written:

> The relation of glaucoma simplex to glaucoma inflammatorium has been the subject of manifold discussions. Since glaucoma simplex, on account of the absence of inflammatory symptoms, is entirely different externally from glaucoma inflammatorium, it was not recognized as glaucoma at all until the discovery of the ophthalmoscope. Even Von Graefe did not originally place glaucoma simplex under the head of glaucoma, but designated it as amaurosis with the excavation of the optic nerve.
>
> Jaeger held to this view until the last, looking upon glaucoma simplex as an optic-nerve lesion *sui generis*—a "glaucomatous" optic-nerve lesion. At the present time, however, the majority of ophthalmologists place glaucoma simplex under the head of glaucoma proper, since it has in common with its most essential symptom, the increase in tension. The inter-connection of simple

and inflammatory glaucoma is also proved by the numerous intermediate varieties which form a continuous transition from simple to inflammatory glaucoma, so that no sharp line of distinction can be drawn between the two.

To these transition-forms belong, for example, the cases of glaucoma simplex with periodical obscuration of vision, and which are accompanied by transient cloudiness of the cornea, and often as well by a dull headache. Even in pure cases of glaucoma simplex, a constant headache sometimes exists, the dependence of which upon the glaucomatous process is proved by the fact that it disappears after iridectomy. A glaucoma simplex, later on in its course, often passes into acute or chronic inflammatory glaucoma, and cases also not infrequently occur in which, after inflammatory glaucoma has developed in the eye first affected, glaucoma simplex is present in the one which is affected afterward.

The inter-connection of the two forms of glaucoma shown from the above-mentioned facts has been doubted because in many cases of glaucoma simplex no evident increase of tension is demonstrable. In these cases we must assume that the lamina cribrosa is particularly yielding, so that it is forced backward by a pressure which does not perceptibly rise above the normal limits. Such cases, to be sure, are not always clearly distinguishable from simple atrophy of the optic nerve with unusually deep excavation. In doubtful cases the testing of the color-perception may furnish a diagnostic guide. In atrophy of the optic nerve color-blindness makes its appearance early, while in glaucoma the ability to distinguish colors is retained for a comparatively long time.

Our principal object in reporting this case is to emphasize two practical points of interest springing from it, and which convey profoundly important lessons:

1. *The ease with which such cases may be overlooked by the physician.* The absence of all objective and subjective symptoms, except the loss of vision and the one shown by the ophthalmoscope, illustrates the necessity of careful ophthalmoscopic examination in every case coming to the oculist. It is to be feared that such an examination is not absolutely invariable, and that the hasty diagnosis of "amblyopia" is, as it were, a garment that may cover a huge sin and lull the patient into a supposed security leading to blindness. It may also be noted that such cases as these make the descriptions of glaucoma in some of the text-books seem very insufficient. A very recent text-book makes glaucoma consist solely in an *increase* or abnormal degree of tension, without regard to the fact that with a highly subnormal power of resistance the process is truly glaucomatous without an abnormal elevation of tension. One cannot help wondering how frequently such cases may not be overlooked, called optic atrophy, etc.

2. *The crime, or what should be held a crime, of the optician in furnishing glasses without a physician's prescription.* The physician *may* overlook such cases, but the optician can by no possibility recognize them. We have personally known several such cases, and so no doubt has every oculist. The present case is a striking example. Had the patient, Mrs. B., three years ago consulted an ophthalmologist she would probably now have good vision instead of being blind. Instead of this she went to a popular optical firm, who if we had proper laws would not have dared to sell her glasses for glaucoma, or, if daring, would now be liable to a suit for heavy damages. Civilization demands that it should be made just as illegal and punishable to sell spectacles without a physician's prescription as it is for a pharmacist to prescribe drugs for any other disease of the human body.

MEASLES AND PHENACETIN: WHICH KILLED THE PATIENT—THE DISEASE OR THE TREATMENT?

BY CHARLES E. PAGE, M.D.,
OF BOSTON, MASS.

IN reporting a case of measles which proved fatal a writer in a current medical journal prefaces the history of the case with some thoughtful speculations concerning the possibly deleterious effects, at times and under some circumstances, of the coal-tar poisons.

"It would seem," he says, "that the marvellous potency of the pharmaceutical derivatives of coal-tar, at present in such general favor, should be sufficient to arouse the responsible physician to an unusual degree of alertness as to any deleterious effects upon the human organism which, when prescribed internally, they might naturally be expected capable of producing. Taking everything into consideration," he goes on to say, "it is quite remarkable that death in certain cases has not oftener been suspected of being the culmination of their use rather than, on the other hand, that they probably exerted the effect of at least postponing the occurrence of such a dire calamity."

From a purely speculative point of view he regarded it as incredible that these drugs, in doses ordinarily recommended, should be so much less liable to produce evil than good, "were it not for the results obtained from the extensive experience in their employment," in all of which the writer concurs, except in the view that the "results obtained" give us any rational hope that these poisons are ever "less liable to produce evil than good."

"Amid the complexities of a given instance of disease," further remarks Dr. Tyler, "it is practically impossible to clearly define that which may be designated the negative action of remedies employed. Observations and experience have too often avouched the efficiency of the *vis medicatrix naturæ*, for example, to avoid the acceptance of many apparent favorable results from artificial sources in any other spirit than that of extreme skepticism."

The case cited was that of an Italian, "about thirty-two years of age, muscular and exceptionally well-nourished." The historian remarked upon "the striking resemblance the symptoms bore in many respects to those which are quoted as having been observed in poisoning by phenacetin," and he goes even further, in thinking that had the amounts employed been considerably greater the question might rationally have arisen "whether it was directly due to the complications resulting simply from the disease, to the remedy, or to a combination of the two," that death ensued. But the amount of phenacetin was so small (fifty grains with whiskey in five days) that it seemed to him incredible that the drug could have much influenced the result.

But, he states that the second five-grain dose of phenacetin on the fifteenth (the second day of sickness) reduced the fever markedly, from 103.6° to 101°, thus

exhibiting a "marvellous potency" for either evil or good. Moreover, in spite of reduced temperature, "the pulse and respiration, on the other hand, became accelerated." My criticism here is, that a drug which increases the respiration and pulse of a patient, does so by adding to the toxic condition, giving the system still more to contend with, thus forcing it to work more vigorously because of the added load, not from increased strength, which being admitted tells, of course, against such a procedure. In this case, as usually happens—indeed, as it seems to me, must always be the case, in accordance with the laws of the animal organism, whatever the apparent effects at the moment, or the happy chance which allows of restoration from disease, under mistaken treatment the organism was made to work harder while the vital forces were actually depleted, the reduced temperature being, really, evidence of this; and the final and speedy exhaustion of the patient to his death in five days, though he was a muscular man, gives further and unmistakable evidence, as it seems to me, in the same direction.

The patient was a splendid subject for water-treatment, and yet not one word is mentioned of even a cold compress over the region of the inflamed bronchi when, on the third day, "bronchitis became very evident in both lungs, and cough troublesomely aggravated." The constant changing of the cold compress over the chest in these cases (pneumonia, acute bronchitis, etc.,) operates most charmingly. By this is not meant the application of a cold towel to remain for any length of time to become a hot fomentation, but its renewal every two or three minutes in desperate cases, and kept up till the conditions are markedly improved, and returned to at any time when evidence is observed of return of the congestion. Instead of this helpful and most regular (though not popular) treatment the chest was simply anointed with camphorated oil, an expectorant directed, and quinin sulphate prescribed. Moreover, the patient was fed night and day, though he was at the start an exceptionally well-nourished patient and a promising subject for the fasting-cure; though, for that matter, it is my practice never to punish a fever patient with food, whether he be lean, stout, or medium, nor to offer any other nutriment than water, till convalescence is well established and satisfactory evidence observed—improved tongue, lowered temperature, good appetite, etc.—that the food stands a fair chance of being digested; otherwise it can serve no useful purpose, but must always prove a harmful nuisance, with absolutely no compensating effects. It tends to keep the patient's temperature up and going up, for it is so much more waste to be burned and eliminated. On the other hand, during every day of absolute fasting the toxic matters which are threatening life are reduced by about two pounds, and a few days of this sort of house-cleaning, as I have observed in innumerable instances, change the conditions so completely as to seem almost miraculous.

To quote: "At 4 A.M. of the 19th (sixth day of treatment), temperature 104°, phenacetin and whiskey were again prescribed, but failed (as will be seen) of any salutary effect. At 5 A.M. the patient was noisily delirious and uneasy." What an indication for a Brand bath, to tranquillize the patient by means of the refreshing cold water, the effect of which is to strengthen the heart, brace the entire nervous system, prevent or restore from the dreaded coma! The common plan, however, of "silencing the alarm bells, instead of doing anything to put out the fire," was pursued: "Sol. morp. sulph. (U. S. P.), one fluiddram, which small quantity it was deemed advisable to supplement an hour later with Dover's powder, six grains. At 6.30 A.M., patient tranquil, but shortly lapsed into a comatose state from which it was only possible to partially arouse him. Pupils contracted; respiration varyingly noisy or stertorous; countenance cyanosed; extremities cold. Hypodermatic of strychnin sulphate, one thirtieth of a grain, and repeated two hours later (11 A.M.). Patient had become completely comatose and reflexly insensible to puncture of hypodermatic needle. He expired at 12.40 P.M. His temperature, taken one hour previously, was 106.8°"

The only water-treatment mentioned is that "at various times during the progress of the illness the surface was carefully sponged with alcohol and water combined." The general impression, both with the profession and laity, seems to be that a little water will not harm a fever-patient if it be well diluted with alcohol.

I have undertaken the study of this case in no spirit of carping, but to emphasize what seems the inevitably harmful routine procedures employed by the great majority of physicians in similar cases, as well as their lamentable failure in studying and applying the simple, but genuine, aids to nature supplied by the great variety of water-treatments.

From the study of many cases similar to the one here recorded, in treatment and results, as well as not a few which started out in similar fashion, but which under quite contrary methods resulted in speedy convalescence and recovery, it seems altogether probable that had this robust Italian been spared the ingestion of a single poisonous drug, as well as of all food-substances, which, from lack of possible digestion and assimilation, are themselves drugs, loading the circulation with the poisonous products of fermentation; and could he have had the benefit of appropriate baths—not for the purpose of downing the temperature, by any means, but, as has been already intimated, for their invigorating effects upon the entire organism—while the fluidity of the blood was maintained by plentiful supplies of pure soft water, hot and cold, the results would have been altogether satisfactory.

867 BOYLSTON STREET.

THREE CASES OF LAMINECTOMY.

BY CLAUDE A. DUNDORE, M.D.,
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THE results of laminectomy for fractures and dislocations of the vertebræ are very uncertain, for with our present resources we are absolutely unable to determine the condition of the cord before operation; the symptoms present may be due to hemorrhage, bony pressure, or adhesions, and at times the cord may be either partially or wholly severed; yet with all the light that has been thrown on the surgery of the spine during the past ten years, we are utterly at a loss to diagnosticate the condition of the cord.

But as laminectomy, if performed aseptically, does

not shorten the patient's days, it is our imperative duty to operate, unless the patient is actually in a dying condition. The results are often disappointing (in fact, more so than statistics show, as there is a tendency to report only such cases as terminate favorably), but the patient is given a chance for improvement, with little, if any, danger of shortening his lease of life.

The following three cases, operated upon by Dr. J. C. Biddle and myself, at the State Hospital for Injured Persons, Ashland, Pa., have not been previously reported, and I publish them to complete the list of these cases operated upon at this institution.

CASE I.—Edward E., aged twenty-one years, single, residence Mahanoy City, Pa., was admitted June 17, 1889, suffering from a partial dislocation of the ninth dorsal vertebra. He had been a laborer in the mines, and while working was injured March 18, 1889, by a fall of top rock, and from that date to that of his admission had been under the care of a local physician without any sign of improvement.

At the time of his admission he weighed but ninety-eight pounds; his weight previous to the injury being one-hundred-and-forty-five pounds. He exhibited entire loss of motion in the lower extremities, with the exception of very slight movement in the toes of the left foot; sensation was almost *nil* up to the hips, above which it was normal; he had complete retention of urine, with a severe cystitis. His tongue was heavily coated, the bowels constipated, and there was marked anorexia, with considerable anemia. His temperature varied from 99° to 100° in the morning, and from 101° to 103° in the evening. The time which had elapsed since the accident precluded any attempt at reduction, and his anemic condition would not warrant a more radical method.

He was put on light, nourishing diet, iron and strychnin were given internally, and electricity was applied to the lower extremities every other day; the cystitis was treated by irrigating the bladder each day with Thiersch's solution. By August his appetite and general condition were much improved, and his weight had increased to one-hundred-and-twenty-five pounds; his temperature being 99° or less each morning, and seldom as high as 100° at night. The cystitis had entirely disappeared, and he was able, with some effort, to pass his urine without the aid of a catheter. Sensation in both extremities had slightly improved, and he was able to slightly move the toes of the right foot. This being his condition, an operation was proposed as the only means of further and permanent improvement, and to this he eagerly consented, and, accordingly, on the 25th of August the ninth dorsal vertebra was trephined.

The cord was found to be compressed and greatly congested, but there was no evidence of laceration. The laminæ and spinous processes of the eighth and ninth dorsal vertebræ were cut away, thus relieving all pressure on the cord; the wound was drained and sutured, and a plaster-of-Paris jacket applied, a hole being cut out over the wound for the purpose of changing the dressing when necessary. By September 1st union was perfect, and for the next month the patient remained in excellent condition, but without any sign of improvement as to sensation and motion. Early in October he was able to slightly move both legs, and had full control of urination; from this time on his paralysis rapidly improved; the battery was applied daily, with massage morning and evening, and in November the plaster-of-Paris jacket was removed, and he propelled himself about the ward in a rolling-chair, and shortly after was able to get about slowly on crutches. He was discharged December 23d, and when I saw him, six months later, he walked very well and without effort; he carried a cane, but this seemed to be more from habit than from necessity. At present date he weighs one-hundred-and-fifty pounds, and drives a huckster-wagon for a living, showing very little loss of motion in his lower extremities.

CASE II.—Thomas K., aged thirty-five years, married; residence, Shenandoah, Pa.; a laborer employed in the mines, was admitted May 12, 1889. On January 25th, while at work, a piece of coal weighing several hundred pounds slipped out and struck him on the back while he was stooping. He was taken home, and Dr. Biddle saw him in consultation a few hours later, and found him suffering from a fracture of the tenth dorsal vertebra, with extreme displacement, fracture of the middle third of the right femur, and of the fifth, sixth, seventh, eighth, ninth, and tenth ribs on the right side. He had complete loss both of sensation and motion below the seat of injury.

On the day of his admission the fractured femur had partially united, the ribs entirely so, and his condition being fair it was deemed advisable to operate without delay.

Upon trephining, the cord was found to be completely severed, the cut ends being almost an inch apart. Further procedure was, of course, useless, and the wound was sutured and dressed, the patient being made as comfortable as possible until the date of his death, June 12th.

CASE III.—Frank S., aged twenty years, single, residence Gilberton, Pa., by occupation a brakeman, was admitted December 20th, 1889. He had been doubled up under a train of coal cars while endeavoring to couple them, on December 16th, and when admitted had a fracture of the ninth dorsal vertebra, with total paraplegia of the lower extremities. He was operated upon the following day, and the cord was found to be severely lacerated and almost disorganized; there had been considerable hemorrhage, as was evident from the clots present in the vertebral canal and surrounding tissues. The cord and canal were washed out thoroughly, the meninges sutured in three places, the laminæ and spinous processes of the eighth, ninth, and tenth vertebræ cut away, the cavity thoroughly drained and dressed with iodoform-gauze. The wound had united by the 29th, but the patient never rallied, and died January 5th.

2012 MASTER STREET.

A CASE OF CHRONIC PURULENT OTITIS MEDIA WITH FACIAL PARALYSIS; SEQUESTRA FROM THE AUDITORY CANAL.

BY CHARLES H. BURNETT, M.D.,
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IN the following account there is presented the natural history of a neglected case of chronic purulent otitis media, since the patient had never received any treatment for her aural disease.

Mary M., twenty years old, born in Ireland, and resi-

dent in this country one year, came to the Presbyterian Hospital, July 25, 1894, for treatment of ear-disease. The patient stated that she had never had scarlet fever, but, at the age of ten years, she had measles. She had no earache nor any ear-disease at that time, but in the years subsequent to measles, whenever she took cold, she had earache and otorrhea. Three years ago, seven years after the beginning of the chronic otorrhea, she had a very severe attack of earache, and a large collection of pus formed above the auricle, which, however, discharged itself spontaneously through the ear. A year later, *i. e.*, two years ago, the patient had another attack of earache, which was followed by facial paralysis of a high degree, and which has remained unchanged ever since.

She has always worn cotton plugged in the auditory meatus, thus retaining septic matter in the ear, and promoting therein the necrotic process.

When she presented herself for treatment she showed, in addition to the facial paralysis, a large supra-auricular collection of pus extending forward beneath and beyond the line of the temporal artery, above to the limits of the squama, and behind to the upper boundary of the mastoid. Pus could *not* be pressed from this point into the tympanic cavity or auditory canal and out of the external meatus. A very dark-colored, offensive discharge came from the meatus, however, originating from the diseased tympanum and auditory canal. The latter passage was blocked with granulations, and denuded bone could be felt near its meatus. The entire region of the auricle and meatus was extremely sensitive to touch, and forbade all exploration with a probe.

The patient was etherized on July 25th, and an opening was made in the lower posterior part of the abscess-cavity, over the upper part of the mastoid. About two fluidounces of dark, thick, fetid pus then escaped from this opening. No denuded bone could be felt in the abscess-cavity by most diligent search with a probe at this or any other time. This cavity was for two weeks syringed twice daily with a solution of mercuric chlorid, 1 to 5000, and the auditory canal and middle ear were syringed with alcohol twice daily. The discharge of pus from the opening in the abscess amounted to one fluidounce daily for two weeks, but under the use of a drainage-tube, begun in the second week, the pus-cavity grew smaller, until its walls adhered and the opening over the mastoid closed.

The granulations in the auditory canal had now shrunken, and the discharge from the middle ear diminished under alcoholic syringing. A tough, fibrous polypus was now extracted from near the meatus, and with it came a curved spicula of bone. The caliber of the still-narrowed and sensitive canal was blocked by an impacted sequestrum. Under ether, on August 25th, an examination of the sensitive canal was made, and by means of Sexton's foreign-body forceps two sequestra the size of large peas were removed after rather forcible traction. These sequestra came from the region of the mastoid antrum, judging from their cancellous structure.

Denuded but firm bone was felt in all directions in the fundus of the auditory canal, after the removal of the sequestra, but this rapidly covered in, excepting a small spot on the inner wall of the tympanic cavity, and the discharge further diminished under alcoholic syringing. It is needless to say that the chronic facial paralysis remained unaltered.

In this case there is shown the natural course of a neglected chronic suppurative otitis media of ten years' duration, one-half the patient's life. Poor hygiene and septic retention from wearing cotton in the ear resulted, in the eighth year of the disease, in a severe acute attack, marking the advance of the necrotic process and producing an irremediable facial paralysis.

The rapid covering in of denuded bone by new muco-periosteum, under antisepsis and asepsis, demonstrates that bare bone is not dead bone, and curetting the denuded surface is not necessary, but rather injurious. Dead bone will exfoliate; denuded bone in the ear should be treated like diseased mucous membrane, by antiseptics, and not with the curet.

TONSILLOLITH: AN UNUSUAL CASE AND SPECIMEN.[1]

BY W. K. BUTLER, A.M., M.D.,
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THE following case of tonsillolith is presented on account of the unusual size which the stone acquired before removal, and incidentally on account of a mistake in diagnosis as to its nature.

The patient, a male, twenty-six years of age, applied last August for treatment on account of "something growing in his throat," which he had noticed since the preceding fall, and which he said had been treated by the application of caustics.

Inspection showed a marked bulging of the soft palate just above the right tonsil, with sub-acute inflammation. Thinking that it might be an abscess it was cocainized and incised, when the knife struck the calculus. The incision, which was midway between the uvula and the anterior pillar, was enlarged and forceps used to withdraw the mass, but without avail, as it could not be grasped. It was then shelled out by passing the finger behind the pillars of the fauces and forcing the mass forward.

While tonsilloliths are said not to be very rare, large ones are exceptional, and the one here presented is the largest of which I have seen any record. Burnett, in his recent *System of Diseases of the Ear, Nose, and Throat*, refers to three large ones which have been reported, the largest of which measured 25 mm. long, 5 mm. thick, and 4 mm. broad. This one measures 25 mm. x 22 mm. x 18 mm. Its weight is 85 grains.

Tonsilloliths are of interest on account of the hemorrhage that sometimes occurs when they slough out, and on account of the obstruction they offer in tonsillotomy, one case having been reported in which the tonsillotome was broken by the resistance offered by a stone.

Calculi usually commence as caseous masses in a follicle of the tonsil, which on drying become hard, and may gradually increase in size by accretions.

This one shows very markedly the laminæ of growth. They are usually composed of organic matter, phosphorus, and calcium carbonate.

Dr. Samuel E. Milliken has been appointed surgeon to the Randall's Island Hospital, New York.

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[1] Presented before the Medical Society of the District of Columbia, October 10, 1894.

BACTERIOLOGIC NOTE.

A NEW-CULTURE MEDIUM FOR THE BACILLUS OF DIPHTHERIA AND OTHER BACTERIA.

BY M. V. BALL, M.D.,
OF PHILADELPHIA.

THE ordinary methods in vogue for the preparation of blood-serum for bacteriologic purposes are complicated, require special and costly apparatus, and often end in failure. The separation of the serum takes several days, during which time contaminations are liable to occur; in transferring the serum so as to prevent entrance of the coloring matter of the blood the use of pipets is objectionable, and in the sterilization at low temperatures spores if present may not be destroyed, so that even under strictest precautions 10 per cent. of the tubes are expected to be lost. Blood-serum is now chiefly used for the cultivation of the diphtheria bacillus, though numerous other germs develop upon it with preference.

For diphtheria a transparent medium is not a necessity. The grayish-white colonies are more plainly visible on a dark background. Therefore, in order to obtain a culture-medium in as short a space of time as possible, and without the aid of laboratory apparatus, and upon which the bacillus of diphtheria will grow as readily as it does upon blood-serum, I use coagulated blood.

The method is as follows: The blood of an animal is collected in a sterilized jar or bottle. As soon afterward as is possible, small sterilized glass test-tubes are filled one-quarter full of the pure blood, before it has clotted, or of the colored fluid portion which has separated if clotting has already begun. The tubes are then placed in a slanting position (a small tin box can easily be constructed for this purpose or improvised so that the tubes will lie nearly horizontal) in a water-bath, and slowly heated until the water in the bath is boiling; the boiling should be continued for ten minutes or more, until the blood has coagulated and become solid. It then has a chocolate color and a moist-appearing surface, upon which a stroke-culture can be made. From a pure culture of the diphtheria-bacillus on agar an abundant growth was visible on the blood coagulum in fifteen hours. It was sufficient to diagnosticate in ten hours. If the tubes are to be kept for any length of time they can be sterilized two or three times at a temperature of 85° C. without injuring the medium.

The preferable temperature for the diphtheria-bacillus is that of the animal body, from 36 to 37° C. As incubators are seldom found outside of the laboratory, and are expensive, a practical and simple way to insure this constant temperature is to place the inoculated tube in a wooden case or other receptacle (to prevent breakage), and keep it in close contact with the human body itself, in the pocket of a patient's night-shirt for instance, or the physician might carry it in his inside vest pocket. This method of incubation has been described before, but it has never been put into practical operation as far as I can ascertain.

The use of blood coagulum, I believe, is original with me. Other bacteria will grow on it, and I am now making cultures of the tubercle-bacilli which have not yet had time to develop. If no new objections arise it will be the most practical of all culture media, requiring the least time in preparation, the fewest materials, and only such apparatus as every household can supply; while for pathogenic bacteria it is the most natural soil, and one well suited for growth. With few exceptions the dark color of the medium brings out the colonies in strong relief, so that they are at once apparent. I suggest the name *nutrient blood-coagulum* for this bacterial medium.

MEDICAL PROGRESS.

A Case of Cystinuria.—HALL (*Quarterly Medical Journal*, vol. iii, part 1, p. 26) has reported the case of a miner, thirty-two years old, who complained of lumbar pains and of having passed stones; but examination with a sound failed to disclose the presence of a calculus in the bladder. The man was of good habits and had lived in the same locality for eighteen years. He had suffered a good deal from sick headache. Ten years before coming under observation he had an attack of what was called pleurisy on the right side, in the course of which he passed a stone the size of a pea. Subsequently he began to suffer from pain in the back on both sides, and twelve months later passed another small stone, which caused much pain. After this he passed various-sized stones every year, more in the spring than at other times; the largest number was four in one day and fourteen in one month. The largest stone was passed a few years before the man came under observation, when he lost also about a pint of blood. The last stone had been passed seven months previously. The pain radiated from the back to the testicles, causing in these a sense of heaviness. From time to time attacks of colic occurred. The urine was clear and high-colored, and deposited a sediment. There was tenderness on pressure over the loins, and well-marked cutaneous hyperesthesia in the middle line from the twelfth dorsal to the third lumbar spine, and passing from this outward in a somewhat triangular shape and ending at the midaxillary line. On the right side in front there were one or two spots of hyperesthesia over the anterior superior spine of the ilium; and on the left one or two spots somewhat higher, also over Poupart's ligament as far as the external abdominal ring.

The patient brought with him seven calculi which he had passed by the urethra at different times. The largest measured half an inch by a quarter of an inch. It was ovoid in shape, of a honey-yellow color, with sparkling crystalline surface; on fracture it presented a yellow, powdery appearance. The other stones were quite small, three being facetted. The calculi were insoluble in water and soluble in ammonia and also in nitric acid. On evaporation large hexagonal crystals of cystin remained, together with rhombic prisms arranged in star-shapedclusters. The urine was alkaline in reaction, and contained neither albumin nor sugar. It deposited a copious sediment consisting of phosphates, together with small round masses with radiating lines not soluble in acid, but disappearing with heat. These latter were believed to be ammonium urate. For a few days the patient was not placed upon treatment, in order that a study of the urine might be made. The quantity passed varied between 40 and 58¼ ounces in twenty-four hours. On several occasions cystin-crystals were found.

Alkaline treatment was then instituted and continued for seven weeks. This consisted in the administration of a combination consisting of potassium bicarbonate 12 drams, citric acid 8 drams 24 grains, and water 12 ounces, of which an ounce was taken in water every three hours. During this time the daily quantity of urine averaged 69.7 ounces. The patient felt much better and suffered much less pain. Throughout this whole period no crystals of cystin could be found, though frequent examination of the urine was made, but as soon as the treatment was suspended the crystals appeared. The patient was dismissed and advised to continue the alkaline medication, but he disappeared from observation.

Successful Celiotomy for Incised Wounds of Liver and Stomach.—BECK (*Deutsche medicin. Wochenschr.*, No. 39, p. 759) has reported the case of a youth, seventeen years old, who in the course of a quarrel received a stab-wound with a knife in the left hypochondrium. The injured man managed to walk a short distance, but finally fell. The wound was closed by means of silk sutures, but the occurrence of vomiting of the contents of the stomach and of blood in considerable quantities necessitated reopening and enlargement of the wound and a search for the source of hemorrhage. The man presented a condition of acute anemia, so that it became necessary to introduce more than a pint of a 0.6 per cent. sodium-chlorid solution into the basilic vein. After the hemorrhage had been controlled by packing the abdomen with gauze, the latter was carefully removed, and it was found that the bleeding issued from a wound in the liver and from a divided artery of the mucous membrane of the stomach. The wound in the liver was closed by means of deep sutures, and that in the stomach by separate suture of the mucosa and serosa. These means sufficed also to control the hemorrhage. The peritoneal cavity was irrigated with a 0.6 per cent. sodium-chlorid solution, and a tampon of iodoform-gauze was introduced between the liver and the stomach. The abdominal wound was closed and an aseptic dressing applied. The post-operative course of the case was uneventful, the tampon being removed on the third day. For a week nutriment was administered by enema; in the second week liquid food was given by the mouth. A small fistula appeared at the site of the tampon, but closed after the extrusion of some of the suture-material used in uniting the wound in the liver. In the course of eight weeks the patient was perfectly well and able to resume his former work and mode of life. To protect the cicatrix he was instructed to wear a soft, elastic bandage.

Physiologic Rest in the Treatment of Prolapse of the Rectum.—BRYANT (*Mathews' Medical Quarterly*, vol. i, p. 513, No. 4), concludes an article upon the treatment of prolapse of the rectum with the following propositions:

The proper performance of the physiologic functions of the rectum contribute greatly to the advancement of rectal disease and to the sufferings of the afflicted.

The complete vicarious discharge of the feces through an artificial anus located in the sigmoid flexure reduces to a minimum the physiologic demands on each structure of the rectum.

The lessening of the physiologic requirements is commonly in direct proportion to the diminution of the fecal flow through the rectum.

The cessation or lessening of the fecal discharge *per rectum* exercises a palliative and curative influence on diseases of the rectum.

In certain cases of obstinate rectal prolapse the formation of a vicarious channel for fecal discharge is justifiable, both as a palliative and curative measure.

The preliminary establishment of such a channel for the purpose of cleanliness and the prevention of infection is justifiable in many grave operations for prolapse of the rectum.

The dangers attendant on the formation of an inguinal anus are much less than those invited by the contact of fecal discharges with large operative surfaces of the rectum.

When cure takes place great care must be exercised thereafter, otherwise the prolapse will return.

The Treatment of Fractures in Children.—LEBLOIS (*Thèse de Paris*, 1894; *Centralbl. f. Chir.*, 1894, No. 38, p. 900) concludes a study of fractures in children and their treatment as follows: Fractures in young persons differ from those in adults by the frequency of their seat at the junction of the epiphysis with the shaft, the preservation of the periosteum and the rapidity of union. This last fact is due to the greater activity of the elements that participate in the reparation of bony tissue. Frequently an excess of this process gives rise to the formation of an undue amount of callus. Such a hyperplasia in the case of fractures about the joints may result in interference with the restoration of normal mobility. Protracted immobilization must be carefully avoided in the treatment of fractures about joints, and should give way to massage and early passive movement. The treatment of fractures in children by these methods is in most cases attended with excellent results, both as to the speediness of recovery and the restoration of function.

THERAPEUTIC NOTES.

The Therapeutic Value of Ice in Ophthalmic Surgery.—MCGILLIVRAY (*Ophthalmic Review*, vol. xiii, No. 155, p. 294) commends the topical employment of cold in ophthalmic surgery. In case of recent injury to the eyeball the eye is bathed with a sublimate solution (1:5000), the patient is put to bed and instructed not to open his eyelids, and ice-compresses are applied immediately and continuously. If, after a day or two, no inflammatory reaction has set in, the compresses are withheld. In cases attended with inflammation, the application is continued till the process has subsided. Each compress is removed as soon as it begins to lose its cold feeling, and a fresh one is applied.

For Bronchorrhea.—

℞.—Copaibæ	. . . . .	℥iij.
Spiritus chloroformi	. . .	f℥j.
Mucilaginis acaciæ	. . .	f℥vij.
Liquoris potassæ	. . .	f℥j.
Aquæ cinnamomi	. q. s. ad.	f℥viij.

Misce et fiat mistura.

S.—Teaspoonful three times daily.

Provincial Medical Journal.

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SATURDAY, NOVEMBER 24, 1894.

ENGLISH AND AMERICAN TEACHING OF MEDICINE.

WE have received a courteous letter from a great teacher of medicine in the United States, calling our attention to an inaccuracy in our report of the number of students of medicine in England, published in a comment in THE MEDICAL NEWS of November 3d. This error, which we regret, consisted in quoting as the total number of such students (552) in England what should have been given as the number in the metropolitan or London schools. With a population, for example, five times as great, London has about one-fifth the number of medical students as Philadelphia.

Our correspondent further avers the commanding excellence of the English teacher of medicine, and cites many examples to prove the contrary of our contention. In reply we would say that opinions on such subjects must of course differ with the standpoint of the questioner, and that a few or a number of noteworthy exceptions may not change the general truth of a large proposition.

But our critic is more contemptuous of our advice to the American medical student to first exhaust the opportunities of his own country before going abroad. The *British Medical Journal* cannot, surely, be charged with a bias toward our view, and from the editorial columns of that journal, October 13, 1894, we make the following extract. The leader is entitled:

THE BITTER CRY OF LONDON AS A TEACHING MEDICAL CENTER.—The failure of London to attract foreign medical students is at the present day conspicuous and growing. When we read that the 20 medical faculties in Germany numbered among their students no fewer than 3507 foreigners out of a total of 8012, during the last summer session, there is surely room for inquiry why London—with a clinical field so enormous—should number its foreign students by units, while the German universities count them by hundreds. In fact, at some German universities foreigners are in excess of the natives.

There are, no doubt, many reasons for this state of things, and it is difficult to appreciate precisely the weight which should be given to each. Something is due, no doubt, to the bare manner in which the teaching in the London schools is directed to meet the requirements of examining boards. Everything is subordinated to getting the average man through his pass examination, and not a little to cramming the laggards up to a point which will enable them to "satisfy the examiners." There are no endowments; there is no university teaching; the voice of the researcher in London is as of one crying in the wilderness, and overpowered by the howls of the half-penny newspapers, whose phenomenal ignorance is made poisonous with calumny. Another but related reason is the want of facilities and opportunities for clinical research, using that term in the widest sense. Where are we to look for well-organized clinical departments, with adequately fitted clinical laboratories, for the chemical and bacteriological study of cases? The examination of cases at the bedside, which was the watchword of the great school of medicine in England in the middle of this century, needs now to be supplemented by careful laboratory-investigations, and facilities for these must be provided if this country is to continue to hold a leading place as a medical center. A medical center is not merely a place where so many hundred students are turned out to a pattern every year, but a center where the higher, so-called "post-graduate," instruction is given by men of wide experience or special training, thoroughly acquainted with every advance, and where the advanced student can receive the guidance and direction which he requires. The medical journals published in America contain about this time of the year many letters from American visitors to Europe relating their impressions of the medical schools. The criticisms on London are all more or less to the same effect. "There are too many medical subcenters, with no inclination toward centralization," writes a correspondent to the *Occidental Medical Times*. "The distances between the educational institutions are so great that the post-graduate courses in medicine are very poorly attended." He agrees with others of his compatriots that the American student who wants advanced courses will do better in New York. In New York, indeed, the post-graduate classes have reached a high pitch of organization, and possess an immense building which is college and hospital in one. In Vienna, in Berlin, and in other German

centers the foreign student is able to attend courses in special clinical departments conducted by junior members of the teaching staff of the university; and it must be remembered that any graduate who can show reasonable credentials can obtain the status of *Privat-docent*, and as such can claim certain facilities for the use of laboratories and museums for teaching purposes. Teaching there is a profession. The university and the institutes of biology, pathology, and pharmacology are furnished by the State. The professors are chosen almost without exception from the ranks of these young men, who have won their spurs as *Privat-docenten*. There is a greater freedom of inter-university communication, the student and the teacher can, and does, pass from one to the other, and the universities vie with each other in providing the most complete laboratory-accommodation. It is, indeed, an astonishing thing to see the magnificent institutes for pathology, for hygiene, and for clinical medicine, which exist in even the minor German centers, and to turn to London, which in these respects is a by-word among the nations. There is no great medical school in London which has anything to compare with them, and of any great central institution London has nothing to show beyond the laboratories of the Conjoint Board on the Embankment—an institution well enough in its way, but not available for education, and one which, when compared to the immensity of London and its wealth, rather evidences a want than fills it.

The movement for a real university in and for London had its origin, and draws most of its strength, from the schools engaged in what we may call "primary" medical education. The grievous disadvantages which London students labor under, owing to the want of reasonable facilities for obtaining a university degree, is the most glaring defect, due to our want of centralization and the play allowed to conflicting individualism.

The State which gives nothing can, of course, exercise no control, for it has no control, and so royal commissions come and go and leave not a wrack behind. The elements of a university exist, but not the university.

Now it may possibly be contended that this refers mostly to a comparison of English and Continental teaching, and not so much to American as compared with foreign teaching. Of one thing, however, there can be no doubt, it settles the question of the relative value of English and Continental teaching. If the American student is to seek other lands for medical study it is certainly not to London that he will go, but to Germany. But another fact is equally incontrovertible, viz., that instruction in Germany is dependent upon a practical knowledge of the German language. Now, how many American students can afford to spend one or two years in first acquiring such a useful knowledge of German, and then can spend one or two more years in learning medicine in that language?

Not one in a thousand! Nothing is more useless and wasteful than the attempt of Americans without a knowledge of German to go to Germany for a year in order to study medicine. How many thousands now regret having so wasted time and money on the intricacies of "gehabt haben werden" and the Teutonic grammar? "He has studied abroad" may help to advertise the young doctor, with a certain class of desired patients, but only the born-advertiser wishes such helps. For the few who can spend several years in Germany, after they have by previous years of study at home exhausted the opportunities here, it is doubtless wise, and most wise, for them to learn what Germany has to teach. It was not to these few we suggested our advice; it was to the many, the vast majority, indeed, who can give but a few months, a year, or possibly a little more, to post-graduate study. Our own custom, unless in some wretched exceptions, of encouraging instead of discouraging young teachers, of multiplying the laboratories, quizzes, seminars, etc., distinctly ally our methods to those of successful Germany rather than to those of unsuccessful England. We still believe that, as a rule, it is good advice to our young men to stay at home and to utilize the splendid advantages offered by many great medical centers in the United States. These advantages, if not quite commensurate in some respects with those of Germany, will with a little patriotic encouragement quickly rise, after the true American habit and fashion, to meet all the demands made upon them. We see no objection to patriotism when it is true and justifiable and when it is to the advantage of scientific progress.

It strikes us, moreover, as somewhat illogical for a teacher in an American post-graduate medical school to earnestly advise all American post-graduates to study medicine abroad.

We have only indicated some of the reasons for the faith that is in us. We have not alluded to the often-noticed fact that long residence abroad by no means best fits a man for success in the daily practice of medicine here. Not a few examples could be adduced to show that it rather unfits him. In certain specialties we are certainly in advance of European custom. The theory of medicine may possibly be as well or even better learned there. A literary physician may, perhaps, be better outfitted there; most certainly the laboratory physician, and the teacher. We do not advise such. They will follow their own good wisdom. There is yet another disadvantage the student will find when he settles at home after his studies abroad. If, as is probable, he uses here his possibly acquired habits

of brutality toward dispensary and poor patients, he will find himself avoided and "stranded"—and justly so.

AN HYSTERICAL ARM IN COURT.

IN a court of justice not far from Philadelphia a suit for damages was fought and won recently, based upon the following circumstances: A young man, walking along a boardwalk at a seaside-resort on a wet day, received a shock from a current of electricity which passed from a low-hanging arc-lamp along his umbrella-handle, the tip of which had come accidentally in contact with the lamp. The damage claimed to have been done was to the arm, which had remained paralyzed for months. The general health was unaffected. It was shown that at the time of the accident the man fell in a fit, which lasted for a long time, during which it was necessary for several men to hold him.

At the trial the arm presented an exceedingly bad appearance. It was totally paralyzed from the shoulder down, and hung limp and flail-like at the side. It was *uniformly* affected, *i. e.*, not only one or a few groups of muscles were paralyzed, as is the case usually from local trauma, but all the muscles of the shoulder, arm, forearm and hand were equally and completely involved. Hence the affection was a monoplegia, and had the features of a *central* instead of a peripheral palsy. The claimant, when he wished to move the arm, took hold of it with his sound hand and swung it about as an inert and lifeless object. There were no contractures, but the hand and forearm were cold, and markedly edematous and blue. The skin was and had been uninjured. The man had been treated in the surgical clinic of a large hospital, because for some reason his case had been regarded erroneously as a surgical one. At the trial an effort was made, of course, to present the injured arm in as unfavorable a light as possible for recovery: it was even intimated to the jury that the nervous and muscular tissue had been "disorganized" by the electric current, and, consequently, that the patient could not recover. Several physicians, including the surgeon, gave testimony, but they did not attempt the formulation of a scientific diagnosis.

On the other hand, the electric company called a medical witness who demonstrated in open court, where alone he had the privilege of examining the claimant, that the neuro-muscular apparatus was not injured permanently. This he did by the use of a faradic battery. Demanding that the patient should be stripped (a demand that was firmly but unsuccessfully resisted by the claimant's counsel), this physician showed that the muscular nutrition was good, and that all the muscles responded actively to the current. He explained to the jury, which was not an intelligent one, that when nerves and muscles are destroyed or "disorganized" the muscles waste, and that among the very first symptoms shown by them is a failure to respond to the faradic current. He explained also that the blue and swollen appearance of the hand and arm is a sign frequently seen in functional, *i. e.*, hysterical palsies.

The jury, as was expected, rendered a verdict for the claimant, and gave him $5000.

The hysterical stigmata in this case were unmistakable. The complete monoplegia, the blue edema, so well described by French writers, the preservation of muscular nutrition and faradic contractility, and the occurrence of an hystero-epileptic seizure at or about the time of the accident, marked the case indelibly. It is more than probable that the arm was anesthetic, presenting the gauntlet, or segmental, type of anesthesia, but this was not tested in court for fear that, if discovered, its effects upon the minds of the jury might be still more disastrous to the case of the company.

This case raises several important questions: First, does a powerful shock of electricity ever leave a permanent injury to nerve-tissue in cases in which it does not kill? In other words, could an electric current expend its force in such a strictly local way as to destroy the neuro-muscular apparatus in a man's arm, sparing the skin, and yet not kill the man? We are not familiar with any such instance. The foregoing case certainly was not one. In such an instance the local traumatic effect would be destructive, and the arm would present symptoms of organic change, such as wasting and the reactions of degeneration. It seems almost inconceivable that a current capable of doing this much local injury should spare the victim's life. Shocks from electricity are now becoming common accidents, and if they can leave permanent, or even enduring, peripheral nerve-changes the fact should soon be making itself evident. The impression is that if the shock does not kill it does not permanently injure. On the other hand, electric shocks, as strokes of lightning, have long been known to be exciting causes of hysteria.

Second, is not a patient suffering from traumatic

hysteria entitled to damages? It seems too often to be rather implied that an hysterical patient is a fraud, and that he or she is entitled to nothing but contumely. This is neither a scientific nor a humane view. The hysteric is *never* a malingerer. His disease is one of the most genuine in nature, and one of the most difficult to simulate. This young man, with his palsied, blue, and edematous arm, had probably never heard of the school of La Salpêtrière, nor had ever read any French effusions in iconography. Yet his arm was strictly according to the type. If he had lost his arm there could have been no question as to his rights. Why then should there have been a question when he had lost *the use* of his arm?

Finally, why are such cases regarded as surgical? In the Paris hospitals it has been found that hysteria is more prevalent among men than among women, and this preponderance is due largely to *trauma* and to alcohol. The Philadelphia hospitals would probably give equally striking results, especially if the surgical wards were searched. But are these cases properly treated, or is their true nature even recognized, in the surgical wards?

EDITORIAL COMMENTS.

The Patent-medicine Disgrace, rampant in the United States, and discouraged and forbidden by foreign governments, proves better than anything else the semi-barbarism of our American civilization. In Germany a nostrum-maker was recently fined $500 for advertising that his "Beard Promoter" was an infallible article for producing a beard. It was tried, proved to be a failure, and the suit was brought and won. Why cannot similar methods be pursued in our country against the horde of wretches who feed upon the gullibility of the public?

Not long since the millionaires who spend millions of dollars in newspaper-advertisements met in New York to celebrate the success of their methods and to elaborate plans for a still greater share of the wealth of the poor. The newspapers are friends of their friends, and gave pages gratis to reporting their doings and publishing their portraits. It seems that a million dollars a year is not an uncommon amount for a single firm to spend in advertisements. We learn that a bill has been introduced into the House of Representatives having for its object the suppression of these advertisements. We wish it might pass, but we have no idea that it will.

And what ludicrous and wretched stuff is the substance of these advertisements, and how they enable otherwise worthless newspapers to continue their useless existence! There is one infallible test of the trashiness and venality of a newspaper. Its reports of news will be unreliable; its choice of news will be vile; its politics will be purchasable or violently partisan, just in proportion as its columns are filled with this greedy, crazy patent-medicine filth.

In England in 1860 the government taxed these concoctions $218,000, and the amount gradually rose till in 1892 it was over $1,200,000, an increase of over 600 per cent. The last sum represents an annual sale of nearly 38,500,000 packages. Think of the hogsheads of this stuff that the English people have poured down their throats! But what immeasurably greater quantities our own people are guzzling every year! Instead of taxing this traffic, if we cannot root it out, we prefer to encourage it, encourage the secrecy of it, give its millionaire owners the protection of the government, nay, let them make our laws, and never a medical society raises its voice or hires an attorney to set some limit to its swinish disease-producing impudence.

Pathogenic Lectures on Hygiene and Medicine.—The world-old difficulty of practising what one preaches is daily illustrated in the unhygienic conditions of the rooms in which lectures or public meetings are held. Since we attended lectures in Germany it may have been that a stray gleam of practical common sense as regards ventilation may have penetrated the atrocious hygienic barbarism of that otherwise civilized land, but we wonder if to-day the lecture-rooms there are as foul and filled with nauseating stenches as formerly. In our country of to-day the theater and public lecture-room not controlled by any hygienic authority but solely by financial interests are often better ventilated apartments than the rooms wherein are held lectures on medicine and hygiene. We have in very recent times attended lectures on biology where the air was deadly to living things and the mind stupefied by the non-oxygenation of the blood. Of what use is it to have only theoretic knowledge if no application of it is to be made? Why teach by word-of-mouth the righteousness of sanitation and illustrate the hypocrisy of the teacher and the valuelessness of the teaching by the unrighteousness of a fetid atmosphere? Why teach the laws of the oxidation and circulation of the blood while hundreds of furious gas-jets are competing with hundreds of hungry lungs for air to use, and also into which to throw the poisonous products of oxidation? Why teach the laws of optics and the physiology of vision whilst the retinæ of all listeners are shamelessly abused and injured by the unshaded, flickering, naked flames of gas-jets, fed with poor gas, at which gas-lights one must stare if the speaker is to be seen or even if the eyes are to be opened at all. It would appear to be a duty of those responsible to endeavor not to kill while teaching the duty of curing, to not create pathologic "specimens" while lecturing upon the sad results of pathologic study, and in the very act of seeking out the causes of certain afflictions of mankind not to encourage other pathogenic conditions.

The Specificity of the Cholera-bacillus.—If incontrovertible proof of the specificity of the cholera-bacillus of Koch were wanting it would be furnished by cases of accidental infection in the laboratory. Such a case occurred several years ago in the Hygienic Institute at Berlin, fortunately with a favorable outcome. A parallel case, but ending fatally, has recently been reported by REINCKE (*Deutsche medicin Wochenschr.*, 1894, No. 41, p. 795). The case was that of a medical man, who, while engaged in investigations of suspected

cholera-water in the Hygienic Institute of Hamburg, was seized with diarrhea and vomiting, passing into an asphyxic condition, out of which he could not be brought, and to which he finally succumbed. That infection took place in the laboratory there was no doubt, although the precise mode of occurrence could not be unequivocally established. The accuracy of the diagnosis was confirmed by the presence of cholera-bacilli in the stools during life, and in the intestinal contents after death. A single case of this kind has more weight as to the specific powers of a given micro-organism than no end of negative evidence. It should also carry with it the admonition of care to be exercised in the manipulation of pathogenic microorganisms in demonstrations and investigations.

The Trolley-gong Nuisance.—In introducing swift-moving trolley-cars it was perhaps necessary that danger should be averted by the ear-splitting gong. It is now a question whether the health of more people is not injured and their deaths hastened, so that the slow deaths are more numerous and indirect injury is much greater than the quick deaths and the direct injuries from running over a few people. The point of the matter consists, however, in the fact that the companies cannot be sued for damages in case of the slow deaths, whilst it costs money to run over and kill people at once. It is the infernal ringing of the gong at nights, on Sundays, and in empty streets, of which we chiefly complain. Why is this mechanical, indiscriminating, stupid nuisance permitted? On Sunday morning, when a poor exhausted worker tries to make up for overwork and for the loss of sleep occasioned by the unearthly noises of six days and nights of bedlam—on the early Sunday morning, when the streets are empty and there is not even a stray cat to run over, why must these gongs be thundered and banged to the banishment of all sleep and rest of thousands of people? It is an outrage our people should not submit to!

From Across the Ocean.—Our readers will remember the interesting article of Dr. Warthin on some physiologic effects of music in hypnotized subjects, published in THE MEDICAL NEWS of July 28, 1894. The facts brought out by Dr. Warthin really opened up a new field of psychologic investigation, and we were glad to present the study in our columns. Now, after some months, Continental scientists are repeating and Continental journals are reporting the facts of Dr. Warthin's study, and all as if discovered by them, and of course without a word of credit to THE MEDICAL NEWS. The echoes are even returning to our country, and the novel investigations are described as if, like all other good things, they came from the East. How hard it is to get our people to recognize the things they have to be proud of, and how proud they are of some things that it were better to be silent about. Our ingenuity and mechanical inventiveness are acknowledged everywhere, but we are so accustomed to receive our science from the East that we ignore the splendid scientific advances made by the American mind, and do not get the credit from the world of the noble scientific spirit that is alive amongst us, and that in many fields is producing most noteworthy results.

Poor Food in Asylums.—That deficient nutritive value in food supplied to the inmates of hospitals and asylums must interfere with satisfactory treatment of them need not be argued. Doubtless there is a wide field for original investigation as to the influence of diet upon insane and otherwise defective patients. So much distressing evidence of municipal corruption has been exposed lately in the New York investigation that we are not surprised to learn that DR. AUSTIN FLINT has denounced before the State Commission on Lunacy the adulteration of food supplied to some of the asylums for the insane. He pointed out among other things that chicory was mixed in the coffee, and that bad tea was used. He also said that the quantity of food is often insufficient.

A comprehensive investigation into the food-supply of public institutions would yield some surprising results. The use of oleomargarin is not infrequent, although it is doubtless billed as butter, and real butter is furnished for the officers' tables.

Electric Purification of Water.—DROUN has lately investigated the purification of water by electricity and finds that the method is efficient, but applicable rather to sewage than to water-supply. The purifying action depends on the formation of sodium hypochlorite (chlorated soda U. S. P.), which is an excellent germicide. Much nonsense has, of course, been uttered in regard to the use of electricity as a disinfectant, and terms as "electrozone," "electro-saline solution," etc., are suggested by inventors and promoted by sensational newspaper-reports, but the question of the applicability is merely one of expense and convenience, as the active agent, sodium hypochlorite, is an article of commerce. One objection to chemic purification of sewage, even when the chemicals used are not poisonous, is that all microbes are killed and the cycle of changes in the organic matter is interrupted.

REVIEWS.

A DICTIONARY OF MEDICINE, INCLUDING GENERAL PATHOLOGY, GENERAL THERAPEUTICS, HYGIENE, AND THE DISEASES OF WOMEN AND CHILDREN. By VARIOUS WRITERS. Edited by RICHARD QUAIN, Bart., M. D. Lond., LL.D. Ed., F. R. S., Assisted by FREDERICK THOMAS ROBERTS, M.D. Lond., B. Sc., and J. MITCHELL BRUCE, M.A. Abdn., M.D. Lond. With an Appendix by SAMUEL TREAT ARMSTRONG, M.D., Ph.D. New edition, revised throughout and enlarged; 2 vols. New York: D. Appleton & Co., 1894.

THE first edition of this standard, one might say classic, encyclopedia of medicine was issued in 1882, and, according to the preface, there have been issued more than 33,000 copies since that time. The first edition contained 1834 pages; the present, 2518; and 43 new illustrations have been added. The illustrations might often have been better, and certainly still many more might have been added with much advantage to the reader and without too greatly increasing the size of the volumes.

No one, in view of the tremendous progress of med-

icine in the last twelve years, will dispute the need of such a complete revision and of such large additions as are now made. In the limits to which we are restricted it is manifestly absurd to attempt any detailed description or criticism of this splendid work. As to description, every reading medical man knows well enough its general scope and plan. The term "dictionary" is an unfortunate one, as it misleads. In the usually-accepted meaning of the term it is neither a dictionary, nor a lexicon, nor a word-book, except in the sense that the articles are arranged alphabetically. Many thousands of dictionary-words are omitted altogether. The etymology of words is sometimes briefly given, but very often not, and the philologic and defining aspect is (rightly enough, considering that the book is *not* a dictionary) quite thoroughly ignored. The work is an encyclopedia of medicine and allied sciences, and undoubtedly the best one in the English language.

As to criticism, the mention of a dozen or two minor points we have noticed would seem hypercritical and useless. We have no wish to indulge in the crime of criticasters and give praise in one line of glittering generality and then write a hundred lines of exaggerated and emphasized carping. Such books as this involve years of life-wasting labor. A thousand hours of conscientious searching and drudgery and intellectual toil of the most painstaking kind too often pass with the reviewer unthought of and unpraised, while a few inevitable errors, omissions, or typographic blunders are pounced upon to show the critic's omniscience and superiority.

It is noteworthy that science nowadays is advancing so rapidly that an encyclopedic work like this, dated 1894, contains not a line or word as to the antitoxin-treatment of diphtheria. How old are our youngest books! Enzymes, ferments, and fermentation, etc., are also omitted. Dr. Stevens will never forgive the authors, we fear, for omitting all mention of exophoria—all the 'phorias—graduated tenotomy, etc.

We cannot forbear also to add a word about the old, old story of English illogicality as to orthography. It is an amusing and characteristically English sin to abuse the deplorable ignorance displayed in "American" iconoclastic spelling, and in doing so display a profundity of ignorance of the very a, b, c of etymology and philology. Thus, as in this work, we have, of course, a clinging for dear life to some of the ancient ways, as in *hæmorrhage, diarrhœa, ætiology, œdema*, etc., but we find *gangrene* instead of gangræne ("γραίνω"), *hemianopia* instead of *hemianopsia* (though quoted as derived from ὤψ—a typographic error makes it ἀψ), etc. The writer escapes inevitable criticism in omitting the derivation of *thyroid*. If he had quoted the Greek origin and still written *thyroid* instead of *thyreoid* (the correct form), he still would have been doubly guilty of etymologic crime. The etymology of diphtheria is given, and yet the adjectival form *diphtheritic* is used instead of the more proper and shorter form *diphtheric*. The authors will receive the gratitude of Dr. Greenhill and Mr. Tweedy for espousing their cause and heightening the wretched confusion as to the meanings of the words *hemeralopia* and *nyctalopia*, two words that henceforth must be banished from scientific usage.

The American supplements add to the value of the work. We are glad to notice the generous and just praise accorded to the assistant editors, Drs. Roberts, Bruce, and Harold, for their most important share in bringing out the volumes. We trust American students will show a hearty appreciation of this great work.

A PRACTICAL TREATISE ON ORTHOPEDIC SURGERY. Designed for the Use of Students and Practitioners. By JAMES K. YOUNG, M.D., Instructor in Orthopedic Surgery, University of Pennsylvania, etc. Illustrated with 285 woodcuts. Philadelphia: Lea Brothers & Co., 1894

THE frequency with which text-books and brochures on orthopedic surgery and allied subjects come from the press is a gratifying testimonial to the interest in this important branch of surgery. Very few text-books on general surgery deal satisfactorily with deformities and diseases of the joints. The chapters devoted to orthopedics are usually brief abstracts gleaned from literature.

The present volume is certainly a credit, not only to the publishers, who always bring out books in excellent shape, but to the author as well, who has been known for a long time as a thorough, painstaking, conscientious student in this neglected branch of surgery.

His classification in Chapter I is commendable, and will certainly be regarded as standard. In studying the different chapters one is impressed with the thoroughness of the work, and it is difficult to bring against the author any charge of one-sidedness or of neglect of the teachings in current literature. The illustrations are sufficiently numerous to make the book thoroughly practical. The criticism might be offered that a certain number are taken from text-books in general surgery and in neurology, and might better be replaced with illustrations more to the point. Yet it is difficult to secure adequate illustrations, and the temptation of the publisher to make use of cuts already in stock sometimes overrides the wishes of the author. The style is clear and the chapters are well arranged.

Taking up the subjects more in detail, one finds that the lines of treatment which are still *sub-judice* are not urged dogmatically, but in a modest way that leaves the student free from any temptation to adopt such procedures.

The author's teachings in the use of plaster-of-Paris are not quite up to date, simply because he is not an ardent advocate of this method, and hence is not expected to be thoroughly familiar with the details that in many hands contribute to a success which he has not attained.

In treating of knee-joint diseases he has made a very careful study of the subject, and one can detect a more thorough knowledge of statistics furnished by some of our German authorities than he would get from a personal study of a large number of cases under his own observation.

In the chapter on lateral curvature of the spine there is a lack of dogmatic teaching which is probably pardonable. The author states the various methods fairly, yet his own recommendations are in the line of medical gymnastics. The various forms of apparatus for crowding the ribs into better position are abundantly illustrated.

In the chapter on infantile spinal paralysis the space given to the faradic and galvanic reactions may not be unduly criticised, yet one hardly expects in a work on orthopedic surgery so much neurologic material, and

is likely to question the propriety of the value placed upon electricity. The prognosis given is sufficiently guarded, but when he comes to treatment and says, "The treatment will depend upon the stage or period during which the disease is seen," one understands that the author has not had a very large experience in the management of this affection, which is accompanied by so many deformities that come within the scope of the orthopedic surgeon. Still, the medical treatment given is to be commended. In like manner his advocacy of mechanical appliances that will protect joints and prevent straining of ligaments unsupported by muscles is certainly worthy of admiration.

The foregoing criticisms are not meant in any way to detract from the value of the book as a whole, and the author is to be congratulated most heartily on the presentation of a work so free from injudicious advice and so full of practical suggestions.

TRANSACTIONS OF THE SOUTHERN SURGICAL AND GYNECOLOGICAL ASSOCIATION. Vol. VI, Sixth Session, held at New Orleans, La., November 14, 15, and 16, 1893. 8vo., pp. 392. Published by the Association. Philadelphia: W. J. Dornan, 1894.

THIS handsome volume, while it affords evidence of the activity and earnestness of the body from which it emanates, can scarcely be regarded as an important contribution to surgical literature. Besides the Annual Address of the President, and a eulogy of Ephraim McDowell, by Dr. McMurtry, of Louisville, it contains twenty-nine papers on scientific subjects, most of which would appear to have evoked free discussion. None of these essays is of very high grade. Perhaps the best is one entitled "Intra-cranial Neurectomy and Removal of the Gasserian Ganglion for Intractable Neuralgia," with a report of four cases, by Dr. Tiffany, of Baltimore. Dr. Hunter McGuire, of Richmond, Va., gives a very brief but interesting account of a case of tuberculous disease of the urinary bladder, in which great relief was afforded by supra-pubic cystotomy. A paper by Dr. Parham, of New Orleans, on the bloodless or "skewer" method of hip-joint amputation, would have been far more valuable had the author given the references to the original accounts of all the forty cases collected by him. Dr. Briggs, of Nashville, Tenn., recording his personal experience in the operative treatment of vesical calculus, speaks very highly of the medio-bilateral perineal section, except in cases of large and hard calculi, when the supra-pubic route may be chosen, or in those adapted for litholapaxy. Without questioning the successes claimed by this well-known surgeon, we cannot but think that the simpler procedures are to be preferred; that in the hands of the average operator supra-pubic section is safer than either of the perineal methods. This seems also to have been the view taken by those who discussed Dr. Briggs' paper.

Of the gynecologic essays, the most important is by Dr. Engelmann, of St. Louis, in advocacy of the vaginal route in pelvic operations; his ideas met with strenuous opposition.

We note in a paper by Dr. Kelly, of Baltimore, the term "pelveo-peritonitis." It is not Latin, Greek, or English, and it is awkward as well as unnecessary.

It is stated that sixteen papers were read by title, but as only five of these are published, there is no positive proof that the remaining eleven had any other existence.

By more careful revision of the reports of the discussions, some awkward lapses, sometimes of style and sometimes of sense, might have been avoided.

A MANUAL OF HYGIENE. By MARY TAYLOR BISSELL, M.D., Professor of Hygiene in the Woman's Medical College of the New York Infirmary for Women and Children. Small 8vo, pp. xii, 330, and Index. New York: The Baker & Taylor Co.

THIS work is intended primarily to be a text-book for medical students, but the author expresses in the preface the hope that it may be found useful in higher schools and colleges not connected with medical institutions. In the main it will doubtless be a great improvement over the manuals of hygiene which are favored by school-boards, but it is certainly not without demerits. In the chapter on water, for instance, we are told that the consensus of experts has fixed the limits of "bacterial permissibility" in water to be anywhere from fifty to five hundred per cubic centimeter. Apart from the inference that water containing less than fifty per cubic centimeter would not be permissible, the statement gives currency to the now exploded view that the number of bacteria in a sample may be taken as an index of purity. On page 100 we are advised that ammonia salts may be detected in water by adding Nessler's reagent to a small quantity of sample, a method of testing that is never used by competent analysts unless there is reason to believe that the quantity of ammonium salts is quite large. In fact the two pages devoted to the analysis of water show a failure to consult the recent literature on the subject. The same may be said of the chapter on milk, in which it is stated that oleomargarin is much lower in price than butter, a statement that is quite erroneous in the sense in which the author intends it to be understood. We note in this chapter that Flügge gives one hundred thousand bacteria per cubic centimeter as the maximum permissible limit in milk (probably as preposterous a statement as Flügge ever made), and we also note a reference to Mr. *Earnest* Hart. Mr. Hart undoubtedly merits this amendment to his name; still we question if he would be pleased by it. The book is well printed, and the illustrations as a rule good. It is difficult to see why, in the brief article on the bacteriologic examination of water, the only illustration should be that of the ruled-square for colony-counting.

TRANSACTIONS OF THE MEDICAL SOCIETY OF THE STATE OF PENNSYLVANIA at its Forty-fourth Annual Session, held at Philadelphia, 1894. Volume XXV. Published by the Society. Philadelphia: The Edwards & Docker Co., Printers, 1894.

A BETTER idea of the contents and value of the *Transactions of the Medical Society of the State of Pennsylvania* for 1894 can be obtained by reference to the NEWS of May 19 and 26, containing a report of the proceedings of the last annual session of the Society than could be given within the limits of a brief review. We have but to add that the work reflects credit upon the Society and is up to the high standard already established.

CORRESPONDENCE.

THE TREATMENT OF DIPHTHERIA WITH THE ANTITOXIN.

To the Editor of THE MEDICAL NEWS,

SIR: In the report of the discussion at the New York Academy of Medicine in your issue of November 17th, page 561, the question of Dr. J. Lewis Smith as to the effect of the antitoxin upon pseudo-diphtheria was put to me, and not to the chairman.

I replied that treatment with the antitoxin was not instituted by Prof. Baginsky unless the diagnosis was positively established to be diphtheria by the well-known bacteriologic methods. The antitoxin being an inert substance, however, really could do no harm even when injected into the body of a healthy person.

Dr. Berg then asked whether we recognized a streptococcus-diphtheria as distinct from a Loeffler diphtheria, and what results were achieved? To this I replied that we recognized only as diphtheria that form of disease in which Klebs-Loeffler bacilli were found.

In the discussion I cited a case of malignant laryngeal diphtheria which arose in the Messiah Home for Children, and which I sent to Willard Parker Hospital. The case was injected by Dr. Shrady, and got well.

Sincerely,

LOUIS FISCHER.

187 SECOND AVE., NEW YORK.

NEWS ITEMS.

The Antitoxin of Diphtheria.—The immunization of a horse in the process of preparation of the antitoxin of diphtheria was commenced on November 5th at Washington by Passed Assistant Surgeon Geddings, of the United States Marine-Hospital Service, by the subcutaneous injection of 0.5 c.c. of the toxins of the diphtheria-bacillus. The operation was followed by little local and constitutional reaction. The injections are to be repeated at intervals, and the whole process should be completed in the course of from eighty to ninety days.

Dr. William P. Spratling has been elected Superintendent of the Craig Colony for Epileptics, of New York. The choice was made by competitive examination. Before entering upon his duties Dr. Spratling will visit the famous colony for epileptics at Bielefeld, Germany, and also other colonies of a smaller scale recently established in England.

Smallpox in Washington, D. C.—During the week ending November 14th, five new cases of smallpox were reported in the District of Columbia. One occurred in an employé at the smallpox hospital, the remainder in private families.

Smallpox in Wisconsin.—From October 22d to November 5th, 117 cases of smallpox were reported in Milwaukee, with 43 deaths.

BOOKS AND PAMPHLETS RECEIVED.

Vade-Mecum du Practicien. Diagnostic et Traitement des Maladies Internes. Par le Dr. Fernand Roux. Paris: G. Steinheil, Éditeur, 1894.

Alumni Oration Delivered before the Alumni Association of the Medico-Chirurgical College of Philadelphia. By Hon. Charles Emory Smith. Reprinted from the Medical Bulletin, 1894.

Typhoid Fever, with Special Reference to Treatment by Antiseptics. By Adolph Koenig, M.D. Reprinted from the Pittsburg Medical Review, 1894.

Appendicitis Obliterans. By N. Senn, M.D., Ph.D., LL.D. Reprinted from the Journal of the American Medical Association, 1894.

Circumcision. By B. Merrill Ricketts, M.D. Reprinted from the New York Medical Journal, 1894.

Report of a Case of Carcinoma of Ileum; Intestinal Obstruction Relieved by Anatomosis with a Murphy Button. By B. Merrill Ricketts, M.D. Pamphlet.

The Surgical Use of Cocain. By B. Merrill Ricketts, M.D., Cincinnati. Leaflet.

Traumatic Periostitis. By B. Merrill Ricketts, M.D., Cincinnati. Pamphlet.

Obliteration of Congenital Pigmentations. By B. Merrill Ricketts, M.D. Reprinted from the Journal of the American Medical Association, 1894.

Increasing the Length of Bones. The Means of Increasing the Length of Bones and of Arresting their Growth. The Application of Some Experimental Facts to Surgery. By L. Ollier, Hotel Dieu, Lyons, France. Translated by B. Merrill Ricketts, M.D. Pamphlet.

Small Hospitals. Establishment and Maintenance. By A. Worcester A.M., MD., and Suggestions for Hospital Architecture, with Plans for a Small Hospital. By William Atkinson, Architect. New York: John Wiley & Sons, 1894.

Fourteenth Annual Announcement Toledo Medical College, Toledo, Ohio. Session of 1894–95.

Where to Send Patients Abroad for Mineral and Other Water Cures for Climatic Treatment. By Thomas Linn, M.D. Physicians' Leisure Hour Series. Detroit: George S. Davis, 1894.

Medical Heterodoxy. By G. M. Peavler, M.D. Bristol, Tenn. Pamphlet, 1894.

Tennessee Medical College, Knoxville. Announcement of 1894–95.

U. S. Department of Agriculture. Bureau of Animal Industry. Bulletin No. 6. Additional Investigations Concerning Infectiouf Swine-Diseases. By Theobald Smith, Ph.B., and Veranus A. Moore, B.S., M.D. Washington: Government Printing Office, 1894.

Puerperal Infection Considered from a Bacteriological Point os View, with Special Reference to the Question of Auto-Infection. By J. Whittridge Williams, M.D. Reprinted from the American Journal of the Medical Sciences, 1893.

Arthropathy in General Paresis. By James Hendrie Lloyd, A.M., M.D. Reprinted from the Philadelphia Hospital Reports far 1892.

Traumatic Affections of the Cervical Region of the Spinal Cord Simulating Syringomyelia. By James Hendrie Lloyd, A.M., M.D. Reprinted from the Journal of Nervous and Mental Diseases, 1894.

Hysterical Tremor and Hysterical Anorexia (Anorexia Nervosa) of a Severe Type. By James Hendrie Lloyd, A M., M.D. Reprinted from the American Journal of the Medical Sciences, 1893.

Malarial Cachexia, Chronic Malarial Poisoning, Chronic Intermittent. By N. L. Guice, M.D. Reprinted from the Virginia Medical Monthly, 1894.

Response to the Toast, "The Country Doctor," at the Colorado State Medical Banquet. By Jesse Hawes, M.D., Greeley, Colorado.

Beitraege zur Histologie und Histogenese des Uterus-Sarcoms. I. Myoma Sarcomatodes Uteri. II. Sarcoma Mucosæ Uteri et Myomata Uteri. III. Melano-Sarcoma Corporis et Cervicis Uteri. Von J. Whittridge Williams, M D. Separat-Abdruck aus der Zeitschrift für Heilkunde, 1894.

Conservatism in Abdominal and Pelvic Surgery. By James B. Baird. M.D. Reprinted from the Atlanta Clinic, 1894.